SWP641

Labor Market Behavior in the Republic of Korea

An Analysis of Wages and Their Impact on the Economy

David L. Lindauer

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The World Bank
Washington, D.C., U.S.A.

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Library of Congress Cataloging in Publication Data

Lindauer, David, 1952-
Labor market behavior in the Republic of Korea.

(World Bank staff working papers ; no. 641)
Bibliography: p.
1. Wages--Korea (South) 2. Compensation management--Korea (South) 3. Wages and labor productivity--Korea (South) I. Title. II. Series.
HD5078.L56 1984 331.2'09519 84-11992
ISBN 0-8213-0380-5

Abstract

Throughout the extensive discussions of the determinants of Korean economic success, one factor is noticeably absent. Attention is rarely called to the supportive role that the Korean labor market has played over the last twenty years. Certainly one of the lessons of the Korean experience is the contribution a responsive labor force can make to economic growth.

In this paper, recent macroeconomic events serve as a backdrop to examining a variety of aspects of the Korean labor market. The evolution of the wage structure of Korea's formal economy is analyzed according to sectoral dimensions as well as worker and firm characteristics. In addition to analyzing issues concerning wage trends and wage structure, aspects of Korean compensation systems and employment contracts are examined. The economic implications of the extensive system of nonbasic-wage payments, i.e., bonuses and allowances, are reviewed as is the notion that Korean enterprises rely on Japanese-style permanent employment contracts.

The paper concludes by comparing wage and productivity trends over the last decade in an attempt to understand the basis for domestic price inflation. Both cost-push and demand-pull explanations are evaluated. Lastly, a technical Appendix reviews sources of Korean labor market data. This review suggests that a far vaster urban informal employment sector exists than is usually portrayed in discussions of the Korean economy.

Extracto

En todos los extensos análisis de los factores determinantes del éxito económico de Corea, hay uno cuya ausencia es notable. Rara vez se destaca la función de apoyo que ha cumplido el mercado laboral coreano en los últimos veinte años. Sin duda, una de las lecciones que enseña la experiencia registrada en Corea es el aporte que puede hacer una fuerza laboral sensible al crecimiento económico.

En este documento se utilizan ciertos sucesos macroeconómicos recientes como telón de fondo para examinar diversos aspectos del mercado laboral coreano. La evolución de la estructura salarial de la economía formal de Corea se analiza de acuerdo con las dimensiones sectoriales y las características de los trabajadores y de las empresas. Además de analizarse las cuestiones relativas a las tendencias y estructura salariales, se consideran aspectos de los sistemas de remuneración y de los contratos de trabajo de Corea. Se estudian las repercusiones económicas del vasto sistema de pagos no incluidos en el salario básico, es decir, bonificaciones y asignaciones, y se examina también el concepto de que las empresas coreanas utilizan contratos de trabajo permanente al estilo de los japoneses.

Este documento termina con una comparación entre las tendencias del salario y de la productividad en la última década, para tratar de comprender cuál es la base de la inflación de los precios internos. Se evalúa tanto la explicación que se basa en el alza de los costos como la que se fundamenta en la presión de la demanda. Por último, en un apéndice técnico se estudian las fuentes de los datos relativos al mercado laboral de Corea. Este estudio indica que existe un sector de empleo informal urbano mucho más vasto que el que suele describirse en los análisis de la economía de Corea.

Les études circonstanciées qui sont faites sur les causes de la réussite économique de la Corée omettent un facteur important : on ne parle que rarement du rôle positif que joue le marché du travail depuis vingt ans dans ce pays. Or, l'impact d'une main-d'oeuvre dynamique sur la croissance économique est certainement l'une des leçons à tirer des résultats obtenus par la Corée.

Dans l'étude présentée ici, les phénomènes macro-économiques récents servent de toile de fond à l'analyse de divers aspects du marché du travail en Corée. On y examine l'évolution du barème des salaires dans l'économie structurée, d'abord par secteur mais aussi selon les caractéristiques des travailleurs et des entreprises. On y étudie non seulement les tendances et la structure des salaires, mais aussi certains aspects des systèmes de rémunération et des contrats de travail. On y analyse les implications économiques du système généralisé de rémunération autre que par un salaire de base, à savoir sous forme de primes et d'indemnités, et l'idée que le succès des entreprises coréennes repose sur des contrats de travail permanents, à l'instar du Japon.

L'étude compare ensuite les tendances des salaires et de la productivité au cours des dix dernières années en vue de mieux comprendre les causes de l'inflation des prix internes : elle évalue le rôle respectif de l'inflation par les coûts et par la demande. Enfin, une annexe technique passe en revue les sources des données concernant le marché du travail coréen. Il ressort de cette étude qu'il existe en milieu urbain un secteur non structuré de l'emploi bien plus important que ne le laissent généralement supposer les descriptions de l'économie coréenne.

Acknowledgments

I am grateful to Messrs. Mark Leiserson, Shahid Yusuf and Roger Key for their comments.

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1. INTRODUCTION AND SUMMARY OF FINDINGS

A. Background

Over a span of twenty years the Republic of Korea has transformed itself from a poor and backward agrarian nation into a modern industrial society. Between 1960 and 1980 real GNP per capita is estimated to have grown at an annual average rate of 7% - an increase almost unparalleled in international experience. Along with sustained increases in GNP per capita the nation has registered significant improvements in almost every other index of economic growth and development.

Considerable research has been undertaken into the primary causes and determinants of Korean economic growth. Such research has been motivated not only by the desire to explain Korean history but also by the hope that lessons learned from Korean experience might be successfully applied to other nations who thus far have witnessed less satisfying economic development. Among the most common factors mentioned as determinants of the Korean growth miracle are the magnitude and impact of foreign aid, the significance of education in Korean culture, and the role of specific government policies and interventions in the fields of agriculture, industrial development and especially export promotion./1 Throughout the debate on the determinants of Korean economic success, one factor is often noticeably absent. Attention is rarely called to the supportive role that the Korean labor market has played over the last twenty years. And yet, without this support, the successful transformation of the Korean economy could not have been achieved. Understanding how a relatively backward agrarian population evolves into a modern industrial work force in the space of a generation is likely to reveal much about the success of the entire economy. Certainly one of the lessons of the Korean experience is the contribution a responsive labor force can make to economic growth.

Having achieved so rapid a transformation of the economy, Korea now faces new economic problems, many of which involve the labor market. The macroeconomic events of the last ten years have produced rapid growth in output, exports and real wages. High inflation followed by growing unemployment and decreasing export competitiveness have also characterized the recent past. In many ways these recent economic troubles should not have been unanticipated. The export-led strategy of the late 1970s placed Korea in a vulnerable position to the vagaries of international economic conditions. The impact of slack export demand in the early 1980s and the entrance

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/1 See Mason et. al. (1980) for a complete review of these hypotheses.

of new competitors in the international arena are likely to have been as responsible for recent economic problems as were purely domestic developments.

With recent macroeconomic events as a backdrop, this report examines a variety of aspects of the Korean labor market. The allocative properties of the market are first considered and offer insight into the fundamental dynamics of Korean wage determination. After having established some basic properties of the labor market, the report goes on to examine the impact of wage trends on domestic price inflation.

B. Organization and Primary Findings

Although rich in statistics, some major weaknesses in Korean labor market information exist. Specifically, by comparing the household based survey of the economically active population with establishment-based wage and employment surveys, official sources are found to account for the earnings of only one third of total private, nonagricultural employment. In other words, according to available sources, some two-thirds of Korea's private, nonagricultural work force belongs to the small-scale or informal economy for which no wage data exist. The majority of the nonagricultural work force appears to be engaged primarily in service activities operating as self-employed or family workers. What is striking about these results is their suggestion that a far vaster urban informal employment sector exists than is usually portrayed in discussions of the Korean economy. Additionally, these findings limit in scope the generalization on wage and employment which can be safely drawn from the available data. (The Appendix to this report reviews in detail sources on Korean wage employment.)

With these limitations in mind, Chapter 2 considers real earnings trends in manufacturing and the rest of the formal economy. Chapter 2 is generally concerned with the allocative and signalling properties of the labor market and relies on earnings trends and the evolution of the wage structure to document these properties.

The manufacturing sector experienced significant real earnings growth from the mid-1950s through the late 1970s. As employment in this sector expanded, real earnings increased by close to 60% throughout the 1960s and doubled in the 1970s. 1980 marked the first decline in real earnings in at least two decades. Other formal economic sectors experienced relatively analagous real earnings movements.

The earnings trends of the formal economy suggest that the Korean economy had passed through the Lewis phase of surplus labor by the mid-1970s. The sustained wage increases of the period 1976-79 are difficult

to reconcile with any other interpretation of the changing long-run elasticity of labor supply. Real wage stagnation and erosion in the post-1979 period is seen not as proof of a reemergence of a surplus labor situation but rather as an indication of the labor market's response to cyclical disturbances. Use of a surplus labor model to depict the contemporary Korean economy is seen as an incorrect macroeconomic framework for the 1980s.

Concerning more microeconomic indications of allocative behavior, Section B examines movements in the interindustry earnings structure between 1970 and 1981. Stability in the ordinal ranking of industries is in evidence. Compression of the interindustry earnings structure is also apparent especially since 1975. This compression suggests significant wage competition for workers during this period.

Another dimension of the formal economy's interindustry earnings structure which is considered, is a comparison of public and private earnings. No obvious trend toward, so-called, public sector wage leadership is revealed by this comparison. Although the public sector may provide significant wage signals to the rest of the economy, the evidence does not maintain that public sector wage settlements dominate private sector wage agreements.

In Section C, the "demographic" dimensions of the wage structure are considered. Starting with earnings differentials by sex, it is noted that male wage premiums are inversely correlated with level of education. However, even after adjusting for level of educational attainment, male/female earnings ratios show virtually no secular compression during the 1970s. The data suggest that female workers, even with their lower reservation wages, failed to dampen male wage increases even during the late 1970s peak labor demand. This revealed low elasticity of substitution between the sexes suggests an institutional distortion in industrial labor costs which may impose, at least in the long run, inefficiency costs on the economy.

The wage structure according to education reveals large differentials between college and high school graduates and smaller differentials between workers with high school versus middle and primary school educations. The intertemporal pattern of these differentials, especially for men, appears to track the relative scarcities of educated labor. In the early 1970s differentials widen but by the late 1970s when supplies had significantly expanded differentials held firm during the high growth years and subsequently declined as labor demand leveled off in the 1980s.

The Korean government's stated desire of the past few years to reduce wage differentials appears consistent with market forces. Policy makers are, however, cautioned not to accelerate these trends beyond the

dictates of the market. Undesirable consequences, such as the substitution of educated for uneducated labor, may result from forced wage tapering and may represent a costly mechanism for achieving equity objectives.

Section D considers earnings behavior according to firm size, region and a number of other parameters related to the firm. The results on earnings by firm size are particularly strong. Although larger firms pay more throughout the period under consideration a substantial reduction in the large firm premium is realized over time. In 1970, for example, workers in manufacturing firms of 500 or more employees made almost 2 1/4 times what workers in the smallest firms, 5-9 employees, earned. By 1980 this differential had fallen to a large firm premium of under 75%. Coincident with this compression in the wage structure, the small firm sector continued to thrive, suggesting that wage and productivity developments were well aligned and that wage dynamics may have been more market than institutionally enforced.

Wage compression in the manufacturing sector according to region of employment also showed considerable narrowing over the 1970s. Reduction in regional wage differentials due to firms competing for workers appears stronger than the dual of workers competing for jobs. This inference is based on the movement of earnings differentials during peak versus slack periods of labor demand.

Chapter 3 moves away from strict inspection of allocative issues towards more institutional aspects of the wage payment system. In particular, the composition of the compensation package and the nature of permanent employment contracts are discussed.

Korea has inherited, adopted and adapted aspects of the Japanese labor and industrial relations system. Concerning compensation, the Koreans also rely on an array of bonuses, allowances and fringe benefits in their remuneration package. Bonus payments, namely payments which vary according to the success of the enterprise, and overtime pay account for 30% of average total compensation in the formal economy. This percentage has been growing throughout the 1970s as firms have chosen to increase bonus payments rather than basic wages.

Such behavior on the part of firms can be explained in terms of the added flexibility the bonus sytem provides. As bonuses increase, an increasing proportion of the wage bill becomes a variable as opposed to fixed cost, at least in the short run. Firms also prefer granting pay increases through bonuses because the level of most fringe benefits is legally tied to basic wages not to total cash compensation. Total labor costs can thereby be reduced by minimizing increases in basic wages.

The economic implication of this growing reliance on nonbasic wage compensation are varied. The system passes on some of the risk of business activity to workers since both profits and wage bonuses can vary

with the firm's economic success. The system is also likely to disguise true levels of inter-firm compensation and thus limit the information available in the labor market.

While Korean firms may have adopted the Japanese bonus system, it is less clear that permanent or lifetime employment contracts have been similarly transferred. Although the information is often contradictory, a review of scholarly works by Korean labor market specialists, discussions with Korean businessmen and economy-wide data on job turnover and worker commitment to individual firms, suggests that permanent employment is not the rule in Korean establishments. If anything, firms pressured by government have a greater responsibility toward maintaining workers than workers have toward their attachment to enterprises.

The economic implications of these findings suggest that the economy can have continued confidence in labor's mobility which will support development of new economic sectors. Furthermore, government may have to assume greater responsibility in insuring incomes and employment during cyclical downturns, since firms will not automatically bear this burden as part of existing institutional arrangements. Lastly, the lack of employment guarantees suggests the need for improvements in industrial and labor relations institutions to facilitate worker-management dialogue.

In the report's last chapter, Chapter 4, entitled, "Wages, Prices and Productivity" the impact of recent wage developments on domestic price inflation is considered. Throughout the 1970s the rate of wage increases exceeded the rate of price increases. Furthermore, during the late 1970s, rapid wage growth was coincident with accelerating price increases and preceded the high inflation of 1979-81. However, these findings need not imply that cost-push rather than demand-pull was at the heart of the wage-price spiral. Demand pull explanations are also consistent with the rapid growth of the Korean economy during these years and along with accomodation by monetary authorities, may help to explain the cause of this round of increases in the Korean price level.

While Chapter 4's discussion of wage and price inflation is primarily devoted to reconciliation between basic data and alternative theories of inflation, some attention is focused on policy prescriptions. In particular, the institution of mandated wage controls in the event of future episodes of price inflation is discouraged, since the structural determinants of such inflations may not stem from the supply side of the labor market. By imposing such controls, wage increases may be dampened at the price of potential bottlenecks and generally inefficient operation of the labor market.

C. The Role of Government in the Wage Setting Process

Throughout this report the position that government has had a lagging not leading role in the wage determination process is maintained. This position is likely to be disputed by some individuals familiar with the Korean labor market. This is not to say that the government was uninvolved or that laissez-faire is an appropriate characterization of the market. What is instead being suggested is that market forces are likely to have dominated wage and employment outcomes, and that wage and employment trends were not independently determined as a consequence of government wage guidelines or mandated employment policies.

Defending this position is not as easy as it might first appear. During the period under consideration, roughly 1970-1982, the government never had a formal apparatus for wage controls akin to what has existed or does exist in other nations. However, wage guidelines have been periodically announced throughout this period and have been enforced through the web of government, labor and industrial relations which characterizes the Korean economy. The organized financial sector may also have played a role in this implicit system of control, compromise and persuasion.

Between 1975 and 1978, the government appears to have favored some administrative guidelines on minimum levels of basic wages. By 1979, official spokesmen were encouraging adoption of national productivity growth as a wage guidepost. Public statements in 1980 through 1981 altered this position as they urged the parties involved to reach their own accords. By early 1982 no official stance was being taken although some members of the government planning community did favor wage settlements limited to a single digit. If anything, this accounting of government wage policy highlights its implicit and variable nature. It appears that the government "has kept its ear to the ground" and has avoided significant departures from the dictates of market forces. Even if such departures may have been advised they have rarely been long term in nature. This flexible approach towards influencing labor market outcomes should be encouraged because it is likely to have been a key element in maintaining the responsiveness of the labor market to the needs of Korean economic growth.

As Korea faces increasingly more complex macroeconomic disturbances such as the high inflation of the late 1970s and the current economic recession, the imposition of labor market controls may appear as attractive expedients for ameliorating immediate problems. However, by not getting at the structural roots of these problems, and by only dealing with their manifestations in the labor market, such solutions may impose long run efficiency costs on the economy in return for short run benefits. Such trade-offs should be avoided.

2. WAGE TRENDS AND WAGE STRUCTURE

A. Wage Trends--An Overview

An understanding of Korean wage dynamics is aided by considering the macroeconmic transitions of the last few decades as reflected in available earnings data. Starting from the late 1950's, these data trace Korea's transition from a Lewis type surplus labor economy through the business cycles of the mid- to late 1970's and early 1980's. An appreciation of this 20 year wage history lends perspective to recent events.

The Mining and Manufacturing surveys and censuses date back to 1955 and have been undertaken annually since 1969./1 Although representing only a small percentage of the total work force, earnings trends in this sector are a good proxy for wage movements in the formal economy. Table 1 presents the nominal and real earnings trends for the manufacturing sector for 1955-1980. The data reveal the considerable real wage gains of employees in this sector. As the manufacturing sector has grown, so have the levels of pay. Over the decade of the 1960's real increases of close to 60% were achieved while the 1970's saw real earnings in manufacturing more than double.

/1 The Mining and Manufacturing surveys and censuses as well as all the other wage and employment surveys mentioned in the text are fully described in the Appendix.

Table 1: AVERAGE EARNINGS IN MANUFACTURING (1955-1980)
(in '000 won/annum)

Year	Nominal Earnings	Real Earnings (1975 won)	Real Earnings Index number (1975 = 100)	Real Earnings % change from previous year
1955	15	185	40.3	-
1958	24	203	44.2	3.2/a
1963	40	216	47.0	1.3/a
1966	67	220	47.9	0.6/a
1967	82	242	52.7	10.0
1969	129	305	66.4	13.0/a
1970	159	324	70.6	6.2
1971	190	341	74.3	5.2
1972	216	347	75.6	1.8
1973	267	416	90.6	19.9
1974	347	435	94.8	4.6
1975	459	459	100.0	5.5
1976	587	509	110.9	10.9
1977	759	597	130.1	17.3
1978	1,050	723	157.5	21.1
1979	1,378	802	174.7	10.9
1980	1,759	795	173.2	-0.9

/a The percentage change is the computed average annual percentage change over the relevant interval.

Source: All data are originally from the Mining and Manufacturing Survey or Census. Collection of these data has been the responsibility of various agencies, including, in chronological order: Bank of Korea, Korean Reconstruction Bank and Economic Planning Board. For the years 1970-1979, the data are from the tabulations of the Small and Medium Industry Handbook (1980).

The late 1970's were a period of rapid growth in the Korean economy and for four consecutive years, 1976-1979, earnings in manufacturing increased at a pace far above the previous historical trend. What must be emphasized about this period was not only the high level of real earnings growth, but that this level was sustained for so many years. In two earlier periods--1967-1969 and 1973--significant increases also occurred, but they were, respectively, of a smaller magnitude and relatively short lived. Lastly, the decline in real earnings in 1980, even though it measured less than one percentage point, stands as a major departure from more than two decades of annual real wage gains.

In order to illustrate that the manufacturing sector's earnings trend does not represent an isolated event in the movement of Korean wages, Table 2 presents earnings series for manufacturing and for private non-manufacturing employment in the formal economy. These series are derived from the Monthly Wage Survey and extend from 1970 through 1981. According to the Monthly Wage Survey, the share of formal employment of the nonmanufacturing group averaged approximately 30% during the 1970's.

Table 2: AVERAGE REAL EARNINGS IN THE FORMAL ECONOMY (1970-82)
('000 won/annum)

	Manufacturing			Non-Manufacturing		
Year	(1975 won)	Index number (1975=100)	% change from previous year	(1975 won)	Index number (1975=100)	% change from previous year
1970	350	75.9	-	572	75.9	-
1971	358	77.7	2.4	597	79.2	4.4
1972	365	79.3	2.0	651	86.3	9.0
1973	417	90.6	14.3	681	90.3	4.6
1974	454	97.4	8.8	731	96.9	7.3
1975	461	100.0	1.4	754	100.0	3.1
1976	538	116.8	16.8	931	123.5	23.5
1977	654	141.9	21.5	1,104	146.4	18.6
1978	767	166.6	17.4	1,328	176.1	20.3
1979	834	181.2	8.7	1,374	182.2	3.5
1980	795	172.7	-4.7	1,310	173.7	-4.7
1981	775	168.2	-2.6	1,278	169.5	-2.4

Source: Ministry of Labour, Monthly Wage Survey.

The Monthly Wage Survey results portray manufacturing and the rest of the formal economy experiencing very similar earnings trends over the 1970-81 period. Once again, the pattern of relatively modest real wage growth (1970-75), followed by extremely rapid growth (1976-78), followed by declining real growth (1980-81) is apparent. The magnitude and exact timing of real wage change does, however, vary between manufacturing and nonmanufacturing. This is due, to a large extent, to the volatile wage patterns of the construction sector (this point will be elaborated upon below).

The evidence of a recent reversal in earnings trends since the late 1970's is consistent with the general slack in the Korean economy and with the absolute decrease of over 100,000 workers employed in the formal sector. This reversal highlights the worsening income position of Korean labor.

In Figure I, the similarity between the long run real earnings trends of the manufacturing /1 and nonmanufacturing sectors are again presented. Having established these trends, it is now possible to interpret them in terms of Korean macroeconomic developments. The model most often applied to the Korean economy has been of the Lewis surplus labor type. Briefly, these models see modern sector growth fueled by relatively cheap labor until the point when marginal productivity wage setting characterizes the traditional sector. At this point, the so-called "commercialization point," wages in both the modern and nonmodern sectors reflect productivity criteria and are seen as part of a sectorally integrated process of wage determination.

The value of assessing Korea's position within the Lewis model is to determine how much, if any, surplus labor exists to fuel future industrial expansion. The relatively gradual real growth in the manufacturing earnings series prior to 1967, and maybe even to 1975, probably reflects a variety of factors including an increasing skill mix of employment within the sector and/or changing institutional arrangements in wage setting. In general, this period is consistent with the surplus labor phase. However, from 1976-1979 it would be difficult to attribute the sustained increases in real wages solely to nonmarket forces, given that neither union power nor government involvement in wage determination was a significant factor during this period. Furthermore, the rapid acceleration of the Korean economy during these years suggests that market forces were working in the direction of increasing labor earnings. Although it may remain a matter of debate when Korea passed its commercialization point, the evidence suggests that labor surplus, in the Lewis sense, had been absorbed by the mid 1970's.

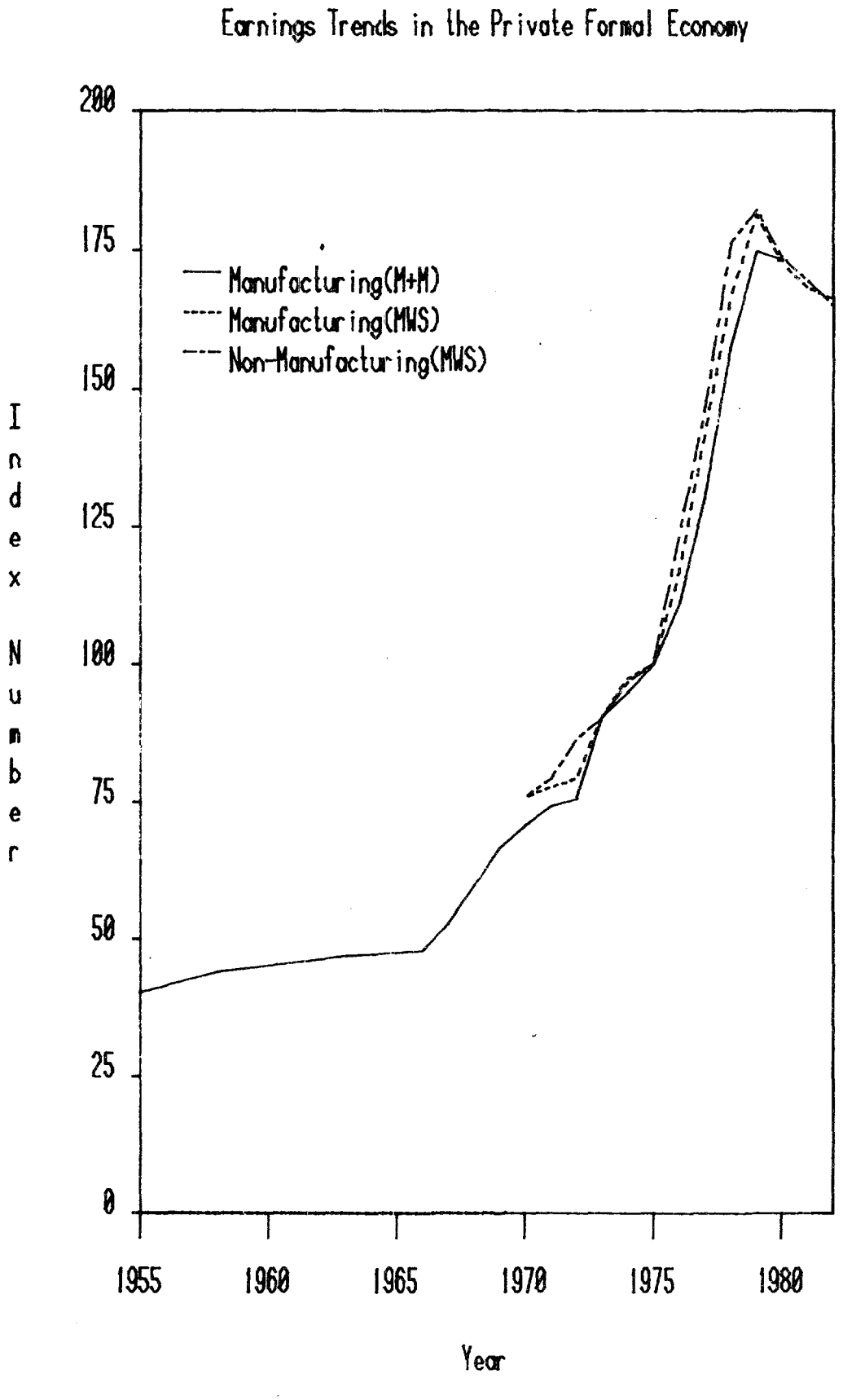
/1 It should be noted that the results on the manufacturing sector from the two surveys are not identical. Differences can be attributed to a number of factors including:

(a) differences in coverage (Mining and Manufacturing surveys include small establishments);

(b) differences in collection period (the Monthly Wage Survey is an average of monthly earnings while the Mining and Manufacturing is an annual figure); and

(c) the Mining and Manufacturing survey uses a broader definition of remuneration and includes more components of labor costs.

FIGURE I


Earnings Trends in the Private Formal Economy
200
175
150
125
100
75
50
25
0
Index Number
Manufacturing(M+M)
Manufacturing(MWS)
Non-Manufacturing(MWS)
1955
1960
1965
1970
1975
1980
Year

The rapid acceleration in real wages in the late 1970's suggests that a long run, elastic labor supply curve no longer faces Korea's industrial sector. The narrowing of the urban/rural household income gap, cited by Bhalla (1979), further suggests the integration of the nation's labor market and runs counter to the dualism model's claim of institutional wage determination in the traditional sector. If a situation of elastic labor supply prevails in the next few years it is likely to reflect short run cyclical phenomenon not a secular tendency as depicted by a surplus labor model. What this implies for anticipated pressures on industrial wages is that they are likely to be low until unemployment rates, for given skills, again reach their frictional points.

B. The Interindustry Wage Structure

The manufacturing/nonmanufacturing earnings trends presented above can be complemented by finer disaggregations by industrial subsector. Table 3 presents monthly real earnings trends for manufacturing, commerce, construction, finance, personal services and transportation industries./1 These same trends are illustrated in Figure II.

/1 The Monthly Wage Survey includes mining and electricity as two additional major classifications. Given their relatively low levels of employment, in 1981 they represented 2.5% and 0.9% of total private formal employment, and for brevity's sake, they have not been included in Table 3. Note also that construction with 83,724 workers, representing a 3.2% employment share in 1981, is also a relatively small sector, but its earnings volatility makes it an interesting special case. Lastly, far more detailed earnings series, down to the 5-digit SITC level, can be constructed within manufacturing industries. For present purposes this seemed unnecessary.

Figure II: Monthly Real Earnings by Economic Sector
(in thousand won)

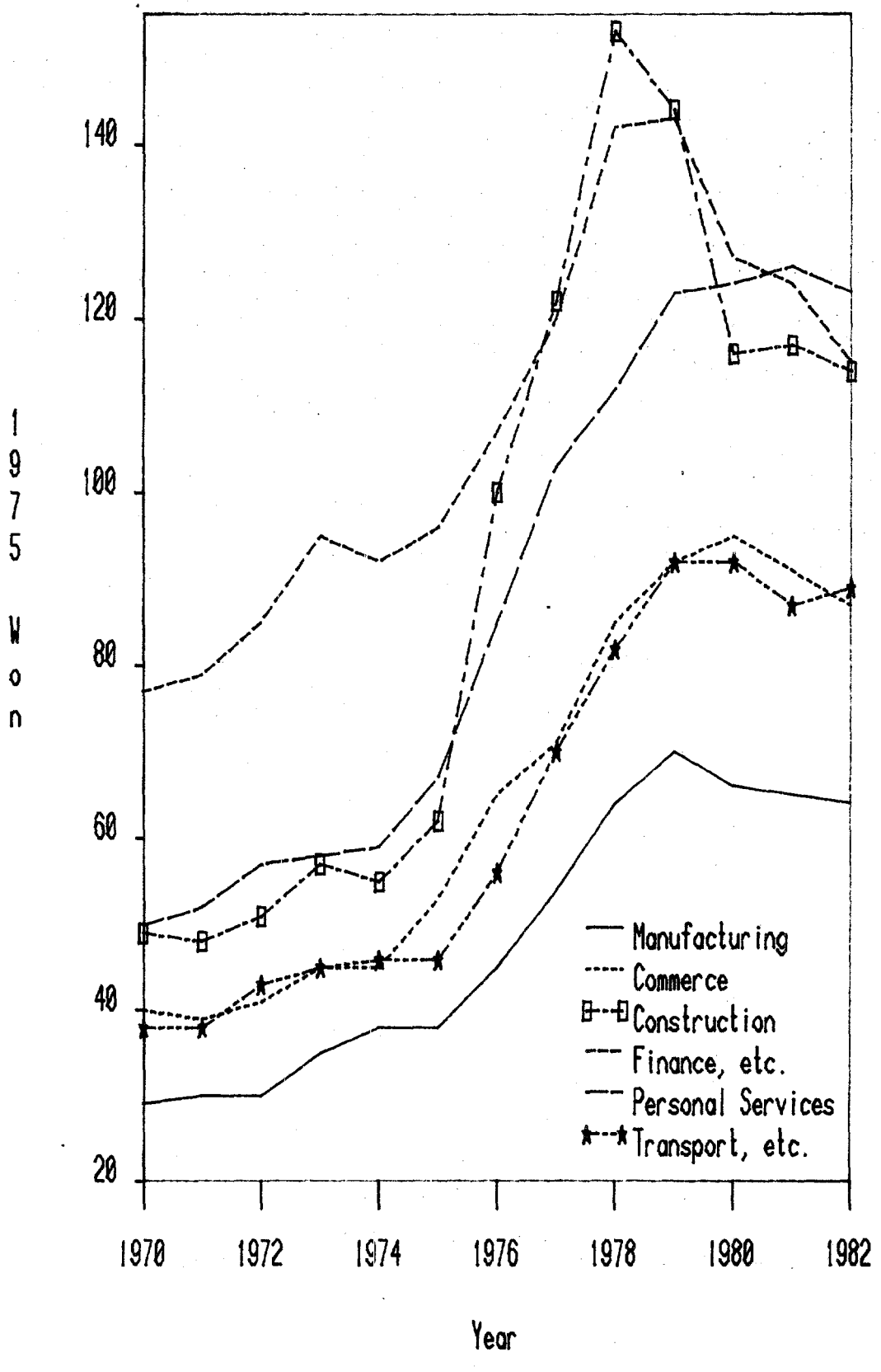


Table 3: MONTHLY REAL EARNINGS BY ECONOMIC SECTOR
(in '000 1975 won)

Year	Manufacturing	Commerce	Construction	Finance, etc.	Personal Services	Transport, etc.
1970	29	40	49	77	50	38
1971	30	39	48	79	52	38
1972	30	41	51	85	57	43
1973	35	45	57	95	58	45
1974	38	45	55	92	59	46
1975	38	53	62	96	67	46
1976	45	65	100	107	85	56
1977	54	71	122	120	103	70
1978	64	85	153	142	112	82
1979	70	92	144	143	123	92
1980	66	95	116	127	124	92
1981	65	91	117	124	126	87
1982 /a	64	87	114	115	123	89

/a Average of January and February.

Source: Monthly Wage Survey.

The data suggest considerable stability in the ranking of interindustry earnings over time with only the construction sector showing significant relative wage changes./1 The stability of the interindustry earnings structure is maintained over a period of rapid real wage growth in all sectors. These events are consistent with results from other nations, where interindustry wage rankings are found to be similarly stable over time. Furthermore, the relatively inferior earnings level in manufacturing and

/1 The construction sector in Korea, as is likely to be the case in nations such as Pakistan and the Philippines, underwent a dramatic change during the 1970's due to opportunities in the Persian Gulf. Construction, in essence, historically a nontradeable became a tradeable, and one which suffers from considerable exposure to worldwide business conditions. The volatility of construction wages are a reflection of these circumstances. What is also blurred by the formal economy statistics is the existence of a large, small-scale domestic construction sector which is likely to be significantly less well paid than is its formal sector counterpart. This is not surprising since the two sectors may actually be thought of as producing different outputs.

moderate level for construction are similar to the earnings structures of many countries, including Japan, Hong Kong, Singapore and the U.S./1

In addition to reinforcing earlier evidence on the similarity of real wage trends throughout the formal economy, the disaggregated interindustry earnings data permit some evaluation of market efficiency. Under certain assumptions, the change in relative dispersion of the interindustry dimension of the wage structure can be used as a test of market behavior. A narrowing of earnings dispersion is consistent, for example, with competitive conditions. As firms compete for workers and workers compete for jobs, differentials strictly associated with sector of employment should diminish. Analagously, an effective government wage policy aimed at, say, the distributional objective of compressing wage differences could generate the same observeable outcome. Of course, in either instance, other forces will effect the dispersion of interindustry earnings. Changing skill mixes and differential growth rates between industries can cause either greater variance or compression in the wage structure irrespective of either competitive or institutional pressures. For this reason, the simple trend in interindustry earnings dispersion is far from a definitive measure of market behavior.

In Table 4 a summary measure of relative dispersion, the coefficient of variation, equaling the standard deviation divided by the mean, of monthly earnings for the eight major industrial subsectors /2 is presented for the years 1970-81. In the early 1970's no discernable trend is evident, but after 1975 a steady contraction in interindustry earnings differences is apparent. Although this contraction extends one year beyond the high growth period 1976-1979, the results suggest a correlation between growing labor demand and wage competition. During this period it is difficult to identify a dominant institutional force which could account for so noticeable a compression in the interindustry wage structure. Competition between firms in different sectors for scarce workers does emerge as a likely explanation for the observed trend./3

/1 See ILO Yearbook of Labour Statistics (1981).

/2 Manufacturing, Commerce, Construction, Electricity, Finance, Mining, Personal Services, Transportation.

/3 Evidence on the mobility of Korean workers lends additional support to the interpretation. Bai (1977), using sample survey date on 1,115 workers, found that 54.2% of the sample had changed jobs at least once. Other evidence, cited below in the discussion of permanent employment, also supports the view that worker mobility between firms exists. Such mobility is a necessary condition for a competitive explanation of the observed compression in the interindustry earnings structure.

Table 4: INTERINDUSTRY EARNINGS STRUCTURE - THE TREND IN RELATIVE DISPERSION

Year	Coefficient of Variation /a
1970	.357
1971	.386
1972	.373
1973	.388
1974	.357
1975	.391
1976	.380
1977	.320
1978	.313
1979	.259
1980	.212
1981	.231

/a Coefficient of variation equals the standard deviation divided by the mean of monthly earnings for 8 industrial subsectors.

The lack of systematic narrowing of earnings differentials in the early 1970's and the reversal of trend in 1981 may suggest that during relatively slack periods wage competition between workers is not an effective mechanism for reducing interindustry wage differences. Wage setting during these periods may be relatively more responsive to firm and worker specific situations than to competitive forces.

A final issue which the interindustry earnings series can be used to address, concerns the pattern of wage setting and its potential role as a source of wage push in domestic price inflation. The relationship between annual nominal wage increases in one industry or sector and how they "spill-over" into other industries and sectors has been raised in both the micro and macroeconomic literature. In the O.E.C.D. nations the notion of wage rounds or pattern bargaining, argues that wage outcomes in certain key industries or large firms form the basis for wage determination elsewhere in the economy. On a behavioral plane, the objective of workers, at least implicitly, is to maintain relative earnings. When applied to developing nations, this concept has been referred to as "wage leadership," where the wage leader is usually the public sector, a major trade union or multinational enterprise. Whatever label is attached to the theory, the basic notion remains the same--institutional forces empower workers in the wage-following sectors to raise their compensation above what purely market

forces would produce. The system becomes a de facto version of an administered price of labor. If the wage leadership model holds up, the entire protected sector realizes wage gains above what productivity criteria might dictate and a wage-price spiral may follow.

Although this theory has been voiced since the 1950's when major U.S. industrial collective bargaining settlements, in such industries as automobiles and steel, were seen as setting off wage rounds affecting other industries, the theory has not been rigorously tested at either a microeconomic or macroeconomic level. Conditions for when wage leadership exists, or for when a pattern of interindustry wage settlements reflects wage leadership, are not well defined. Given the limitations of the received theory, it is difficult to assess the role selected sectors in the Korean economy may have played in influencing wage levels throughout the formal economy.

The existence of neither a strong union movement, nor of rigid government wage guidelines, nor of a dominant foreign enterprise sector makes the Korean labor market an unlikely candidate for wage leadership to apply. Nonetheless the benchmark or reference wage effect of certain settlements may be significant. For example, government wage increases are determined annually and are publicized, and may exert a guideline effect on wage setting elsewhere in the formal economy. To explore this possibility and since wage leadership refers to nominal events, Table 5 presents the average annual percentage increase in earnings for manufacturing, nonmanufacturing and the government./1 The government figure is not the realized average increase, rather it is a statement of the government's wage target and does not take into consideration promotions or any changes in the skill mix of public employment. As such, the target as an estimate of average public sector wage increases is likely to be biased downward relative to the percentages reported for the private formal economy.

/1 Recall that in 1981 government employed almost 500,000 workers representing 18% of total public plus private formal economy employment. Its potential influence, based on size alone, could be considerable. If one breaks down public employment by skill classes it is likely that the government employs even larger percentages of higher level skills and is, therefore, even more influential in these submarkets.

Table 5: AVERAGE ANNUAL PERCENTAGE INCREASES IN TOTAL EARNINGS

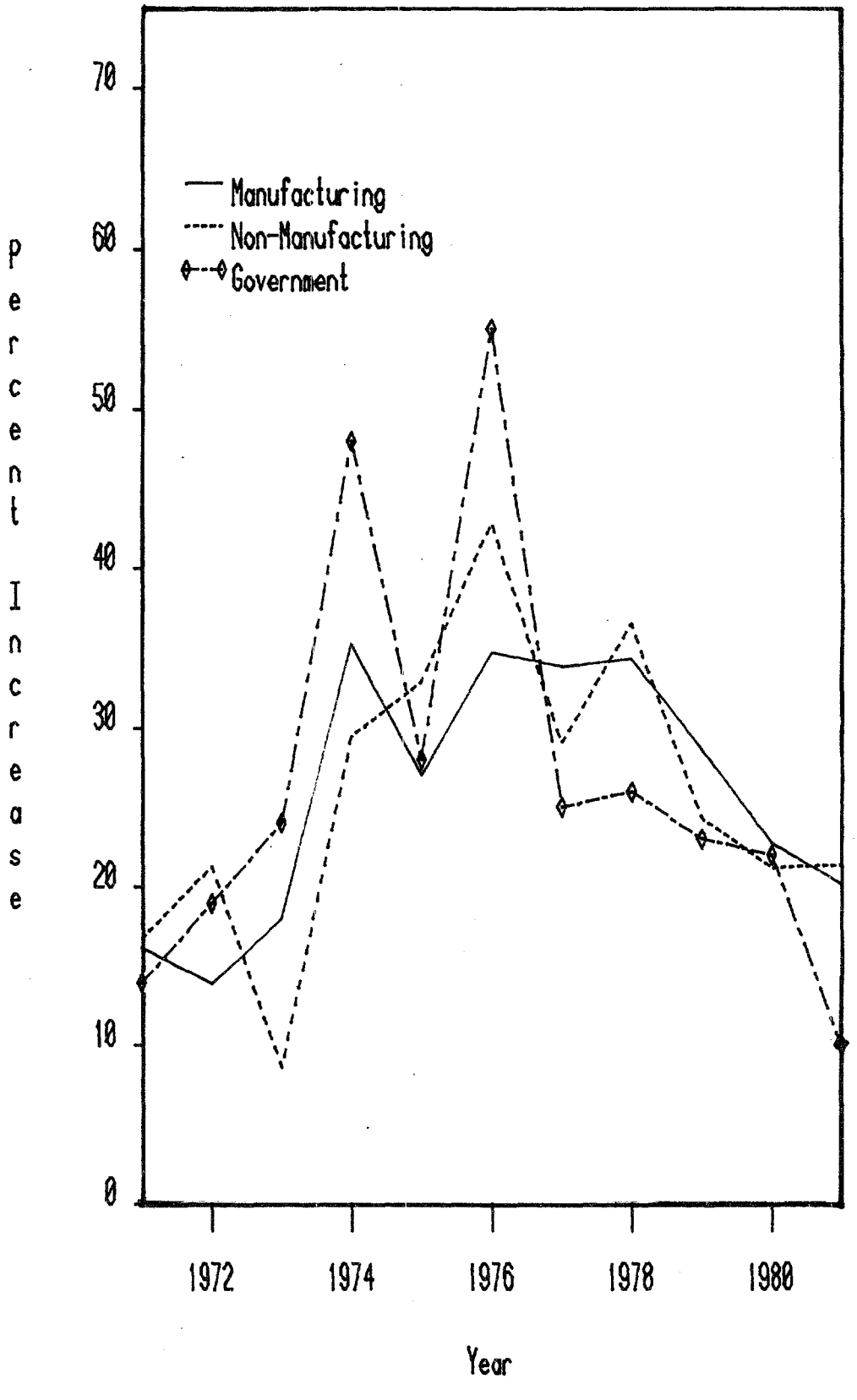
Year	(1) Manufacturing	(2) Nonmanufacturing	(3) Government
1971	16.2	16.8	14
1972	13.9	21.3	19
1973	18.0	8.6	24
1974	35.3	29.5	48
1975	27.0	32.9	28
1976	34.7	42.9	55
1977	33.8	29.0	25
1978	34.3	36.5	26
1979	28.6	24.3	23
1980	22.7	21.2	22
1981	20.1	21.4	10

Sources: (1) & (2) Monthly Wage Survey
(3) EPB

If one considers the data of Table 5 or the accompanying graph, Figure III, no obvious pattern of correlation describes the interaction of public and private earnings. Public sector increases steadily rose throughout the early 1970's, leveled off during 1977-1980 and fell in 1981. (Note that this decline is scheduled to continue for at least another year. The announced 1982 target is an average 9% increase.) From 1972 through 1976 the public sector, in an attempt to "catch-up" to compensation levels prevailing elsewhere, rapidly increased civil servant salaries. During the high growth years, 1976-1979, public sector increases started to lag behind the private economy. Since the downturn in economic activity, lower public sector salary increases have been mandated due to both fiscal pressures and the government's desire to set an example as part of an "implicit" wage guideline policy.

The data do not readily support the view that the government has been a wage leader. The correspondence of same year wage increases between sectors is low and no obvious lag pattern emerges upon inspecting the trends. This does not deny that increases granted by the government are going to serve as a signal elsewhere in the economy. However other forces, including market pressures, appear likely to heavily influence private wage settlements. If wage push explanations are at the root of the Korean price inflation of the late 70s, an alternative to public sector wage leadership as the causal mechanism must be found.

Figure III: Average Annual Percentage Increases in Total Earnings



A summary of the empirical findings on the interindustry earnings structure follows:

(a) Similar real earnings trends across economic subsectors from 1970-1981;

(b) Stability in the ranking of interindustry earnings coupled with secular compression in the structure, especially during the late 1970s; and

(c) Lack of simple correspondence between public and private wage increases throughout the 1970s.

These findings suggest some responsiveness of industry earnings to macroeconomic events and the potential allocative efficiency of the wage setting system. Furthermore, the role of public sector pay determination is, at best, an influence on private wage setting but does not appear to have acted as a binding wage guideline.

C. "Demographic" Dimensions of the Wage Structure

An account of the interindustry earnings structure provides a useful starting point for evaluating the trends and their implications in the formal economy wage structure. However, the interindustry dimensions provides a restricted view of wage dynamics because its boundaries are somewhat arbitrary. Afterall, we do not believe that specific labor markets are defined by industrial classifications. The mobility of Korean workers and the absence of industry unions supports this view. By focusing on personal characteristics of workers, such as sex, education and experience, it is possible to identify specific labor markets which are more clearly delineated. By analyzing the movements in wage differentials between such groups, the allocative properties of the labor market can be further assessed. The response of the labor market to the relative scarcity of different types of labor should reflect the market signaling properties of wage outcomes.

Relative to other economies, there are few obvious categories of noncompeting groups within the Korean labor market. Neither ethnic nor regional differences produce significant segmentation. Men and women, however, may represent noncompeting groups both in terms of earnings determination and educational and occupational opportunities. The tendency for women to leave the work force at marriage plus characteristics of Korean sociology warrant separate treatment of male and female labor market experience. Wherever possible in our analysis of the wage structure we will distinguish workers according to their sex.

Sex Differentials

We proceed by examining the trend in relative wages between men and women. The relevant nominal earnings data appear in the Annex./1 Table 6 below presents the derived male/female wage ratios for specific education cohorts.

Table 6: MALE/FEMALE EARNINGS RATIO BY EDUCATION (1971-1981)

Year	All Workers	Educational Attainment		
		College & University /a	High School	Middle & Primary
1971	2.31	1.39	1.53	2.10
1972	2.22	1.28	1.50	1.94
1973	2.21	1.41	1.56	1.88
1974	1.95	1.60	1.56	1.87
1975	2.36	1.66	1.63	1.90
1976	2.28	n.a.	n.a.	n.a.
1977	2.28	1.62	1.74	1.77
1978	2.30	1.80	1.76	1.87
1979	2.36	1.91	1.80	1.98
1980	2.33	1.73	1.82	1.97
1981	2.25	1.64	1.76	1.93
mean	2.26	1.60	1.67	1.92
(s.d.)	(.114)	(.195)	(.122)	(0.87)

/a Includes Junior College, College and University Graduates.

Source: See Annex Table A2.

/1 These data were obtained from the ten year collection, 1971-81, of published results from the Occupational Wage Survey. (The first survey was undertaken in 1970 but these results are so out-of-line with later figures that they were not included in this analysis.) Both the Occupational and Monthly Wage Surveys rely on almost identical samples of establishments. Major revisions in the list of establishments from which this sample was drawn were undertaken in 1973, 1976 and 1980. As a result some discontinuous "leaps" can be expected surrounding these years. However, it is expected that employment rather than earnings data were more affected by these sampling changes. For the Monthly Wage Survey, an ex-post smoothing of data trends was undertaken, therefore, previous results cited from the MWS, all of which rely on only the latest publication of that survey, are not as seriously affected by the sampling change as may be the OWS results.

Male earnings in the private formal economy averaged 2.26 times female earnings from 1971-81./1 Furthermore, this differential shows no secular trend over the 11 year period. Not even during the high growth period, 1976-79, was there a particularly distinct pattern of change. This is a somewhat surprising result, since the considerable demand pressures of those years, reflected in rapidly growing real wages, might have been expected to lower prevailing differentials as firms substituted lower priced female workers for relatively more expensive male labor.

To further test this substitution hypothesis a more disaggregated view of the male/female wage structure is of value. After all, during the entire 11 year period, significant changes in the skill mix of industrial employment occurred. Therefore, the aggregate trend in the male/female earnings ratio may mask the true direction of relative wage adjustments. OWS estimates indicate that the Korean labor force was becoming more female and more education intensive during the 1970s. In the 11 years under consideration women increased their share of industrial employment from 31.9% to 38.5%./2 Among all workers, those with more than middle school education grew from 34.8% of total formal employment in 1971 to 43.8% in 1981. Educated women, those with more than middle school, increased their share of total female employment from 17.5% to 28.5% during this period while the corresponding figures for educated men were 43.0% and 53.5% respectively. These changes in the education/sex mix of industrial employment legitimate the need for a more disaggregated inspection of the sex dimension of the wage structure.

In Table 6, male/female earnings ratios by level of educational attainment indicate that, on average sex differentials decline as education level rises. Looking within education groups, over the entire period for college and high school graduates the premium accruing to men shows a gradual increase. In all cases the high growth years are associated with widening sex differentials and only for the most educated have these differences narrowed appreciably during the recent, post-1979, economic slump.

Since education is only one attribute which contributes to worker productivity, it would be incorrect to assume that all skill differences between the sexes have been captured by the education disaggregation. Job experience in particular is vastly different for men and women due to sex

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/1 By way of comparison, in Japan in 1955 the male/female earnings differential equaled 2.25. By 1965 it had fallen to 2.09 and by 1975 to 1.79. (Source: Cook and Hayashi (1980)).

/2 By way of comparison, the corresponding percentages of female employment in Japan's industrial sector are 28.7% (1960), 31.3% (1970) and 31.2% (1978). (Source: Cook and Hayashi (1980)).

related patterns of labor force participation. Nonetheless, the results suggest that wage competition between men and women was not strong enough to compress earnings disparities. It should also be noted that during periods of peak demand, male earnings growth outpaced female pay increases, while female employment grew at a faster rate than did the increase in jobs filled by men. By implication, the elasticity of labor supply is greater for women than for men, a not uncommon result.

The inability of the female labor market, with its lower reservation wages, to dampen male wage increases for even the lowest education groups suggests a low elasticity of substitution of women for men which may produce allocative inefficiencies. Since the Korean labor market exhibits both industrial and occupational segmentation by sex -- there are, in essence, male industries and female industries, male occupations and female occupations -- it may be the case that Korean institutions and not market forces may limit the role that women, as a significant percentage of the working age population, can contribute to the growth process. By not more fully integrating women into the formal labor market -- either by removing sex related job barriers or by offering better wages as incentives -- Korea may maintain an industrial cost structure containing distortions which could be removed. Although the entire fabric of Korean culture and society is woven into this problem, government initiatives within, say, greater equality of opportunities in public employment or through other policy directives could augment the efficiency of the industrial labor market. The redistributive impact of such policies might also be considered beneficial.

Education Differentials

In an efficiently operating labor market various forces will act to either expand or contract the educational wage structure. The relative scarcity of different types of workers should determine relative wage movements. On the supply side, lagged population growth and the capacity of the schooling system are likely to be key determinants. On the demand side, differential rates of industrial expansion and ease of substitution between education groups will influence wage outcomes.

Korean macroeconomic trends are consistent with an increasing demand for labor throughout the 1970s. The 1980s have been associated with far slower expansion, if not negative employment growth. On the supply side, stocks of educated workers grew over the entire time period with college trained and high school graduates becoming increasingly less scarce. By 1982, concern over the unemployment of educated youth was being voiced. This represents a significant reversal from the late 1970s when firms complained about the difficulty of finding trained labor.

With these trends in mind, we turn to the available data which permit calculation of earnings ratios between the following groups: college and university; junior college; high school; and, middle plus primary school graduates. The data, reported in Table 7, suggest a nmber of trends. For

both men and women, the largest of the three differntials is College/High School, averaging to an 88% and 93% premium for College educated men and women respectively./1 If productivity factors are responsible for these earnings ratios, then it can be concluded that post-secondary school education has been the most productivity augmenting form of education over the last decade. If institutional explanations, such as credentialism, account for at least some of the observed differentials then a strict productivity explanation needs to be modified.

Table 7: EARNINGS RATIOS FOR MEN AND WOMEN BY EDUCATION (1971-1981)

	Men			Women		
Year	College/a junior college	College/b high school	High school/ middle /c	College/a junior college	College/b high school	High school/ middle /c
1971	n.a.	1.68	1.44	n.a.	1.85	1.99
1972	n.a.	1.74	1.45	n.a.	2.08	1.84
1973	n.a.	1.76	1.48	n.a.	1.94	1.79
1974	1.42	1.81	1.40	1.33	1.76	1.68
1975	1.53	1.90	1.46	1.39	1.87	1.71
1976	1.51	n.a.	n.a.	1.60	n.a.	n.a.
1977	1.48	1.95	1.44	1.72	2.08	1.47
1978	1.48	1.95	1.42	1.47	1.90	1.51
1979	1.50	1.95	1.31	1.36	1.84	1.44
1980	1.51	1.90	1.27	1.39	1.99	1.38
1981	1.51	1.88	1.28	1.45	2.02	1.40

/a College and university graduates.
/b Junior college, college and university graduates.
/c Middle and Primary School Graduates.

Source: See Annex Tables A1 and A2.

The trend in education differentials for men suggests the following. From 1971-1978 the High School/Middle School ratio remained relatively constant. After 1978, steady declines in the ratio are consistent with the

/1 Park (1981) arrived at a similar conclusion based on cross-section estimation of human capital earnings functions. For both the men and women in his 1976 sample survey, the economic return to College and University education was incrementally higher than for any other level of completed schooling.

declining scarcity of High School graduates as Korea approached universal secondary education. Additionally, the unskilled nature of many of Korea's industrial jobs suggests that a high degree of substitution should exist between these two education group. The College/High School ratio shows a markedly different pattern. Widening differentials generally characterize the years 1971-1977, followed by 2 years of constant relative earnings and then 2 years of a declining earnings ratio. The increasing demand for educated workers in the early 1970s met with scarcities in the available stocks of such workers. By the late 70s, however, supplies had increased and the stability of the College/High School differential during the post-1975 boom argues for a significant turnaround in the relative scarcity of college educated men. The decline in their relative earnings since 1979 further supports this view. The College/Junior College trend is quite stable, varying little more than a percent or two since 1975. The stability of the differential suggests that the substitutability of these workers as well as the relative growth in their demand and supply have remained essentially constant.

In the female labor market, High School/Middle School differentials eroded even more quickly than did the male trend. As with the men, the fact that the trend exhibits no cyclical behavior may indicate that relative scarcities of these types of labor progressively diminished. The experience of college educated women exhibits no generalizeable pattern suggesting that the wage dynamics of this labor submarket are more complicated, and, perhaps, far more institutionally affected, than they are for their male counterparts. Given the relatively small percentage that college educated women represent out of total formal employment, the efficiency implications of these wage trends are not likely to be of major significance. The College/Junior College trend also shows rather erratic movements which do not lend themselves to any straight forward interpretation.

For major employment categories, the lower levels of educational attainment for men and women, and for higher educated men, earnings differentials appear to track relative scarcities. The role of institutional forces, be they the results of internal wage structures or government wage policy, may also account for the observed trends. However, the dynamic adjustments which have been documented suggests that if institutional forces are a major determinant of these wage trends, then institutions must have flexible objectives. If not, greater wage rigidities would be expected. If institutional forces exhibit such flexibility then the distinction between institutions and market behavior

becomes blurred. For these reasons a market oriented system of wage determination appears as a reasonable description for most of the education dimension of the Korean labor market./1

The long run as well as cyclical pattern of earnings differentials by education serve as a useful backdrop for assessing recent changes in the Government's implicit system of wage guidelines. For the last few years the Government has suggested that firms compress internal wage structures. This policy, oriented toward distributional objectives, might be considered to have been achieved based on the evidence assembled in Table 7. However, the initial narrowing of education differentials predates the Government's stated commitment to this objective and argues that market forces may be primarily responsible. At a minimum, market forces and Government policies appear to be working in tandem. In the future, the Government should be wary of imposing wage guidelines which act to further accelerate the compression of the wage structure. Although laudable on equity grounds, such policies may produce improper market signals, encouraging firms to substitute educated (i.e., relatively less expensive) for uneducated (i.e., relatively more expensive) workers. Such disemployment effects, if they occur, would run counter to the initial distributional objectives of the stated policy.

The contribution public policy versus market forces has made to recent trends is something that even sophisticated wage analysis would be unable to accurately separate. What can be concluded is that the forces of labor supply and demand have exerted a significant impact on the rewards that education returns to those in the labor force. In the most recent period these rewards have been falling, suggesting slack in the labor market for educated workers, a situation distinct from conditions of the late 1970s.

/1 One other potentially important institutional factor should also be raised. As has been argued in other nations, a system of job filtering may occur whereby education becomes a necessary, although on productivity grounds unwarranted, criteria for employment. Under such a system, observed wage differentials by education erode, because the average wage of the educated falls as workers with education start accepting lower paid positions. Such outcomes may be consistent with efficient wage determination but reflect considerable inefficiencies in the use of resources devoted to education. The social costs of education under this scenario diverge from the private returns. Lacking any evidence, we cannot even speculate on the presence or extent of job filtering in the Korean labor market.

Experience Differentials

In addition to education, job experience is a prime determinant of individual earnings. As workers accumulate more experience their earnings tend to rise, although this increase usually occurs at a decreasing rate. The productivity explanation of this trend is straightforward. Learning-by-doing increases the quantity and quality of output a worker produces and employers reward this higher productivity with a higher level of compensation. Human capital theory enriches this explanation by interpreting the time and resources devoted to on-the-job training as investments which bear a positive return at some later date. An earnings experience profile can then be derived which exhibits properties which are generally substantiated by empirical information. The human capital theory, with its distinction between specific and general human capital, also leads to additional hypothesis concerning the relative shapes of earnings experience profiles for various education and occupation cohorts. Lastly, the institution of seniority systems, which may not mesh with productivity trends, can also account for the observed relationship between annual earnings and a worker's years of job or career experience.

In Korea, experience is certainly rewarded. The OWS reports earnings by years of career experience by occupation. Note that such data do not pertain to any one individual. Therefore, in addition to the usual bias inherent in cross-section studies, if workers change occupations, their own earnings profiles will differ from those generated by this aggregate analysis. Based on the OWS data, the accompanying Figure presents, for 1980, the earnings experience profiles for six, relatively well-defined occupations. For each profile 4 data points are available: mean earnings for less than 1 year of experience, 1 - 4 years, 5 - 9 years and 10 or more years./1 Every occupation exhibits earnings as an increasing function of experience. A flattening of the profile, consistent with the accepted semi-logarithmic specification of earnings as a function of experience and experience squared, is not apparent, perhaps due to the limited amount of information available. Given the youthful nature of the Korean industrial labor force, even the greater than 10 years of experience category will not contain sufficient numbers of older employees to force the cohort average to decline from its earlier trend.

The relative slopes of the profiles are somewhat consistent with expectations, since they appear to vary positively with the level of earnings in a given occupation. This may suggest either (or both) a greater tendency or greater opportunities to invest in productivity

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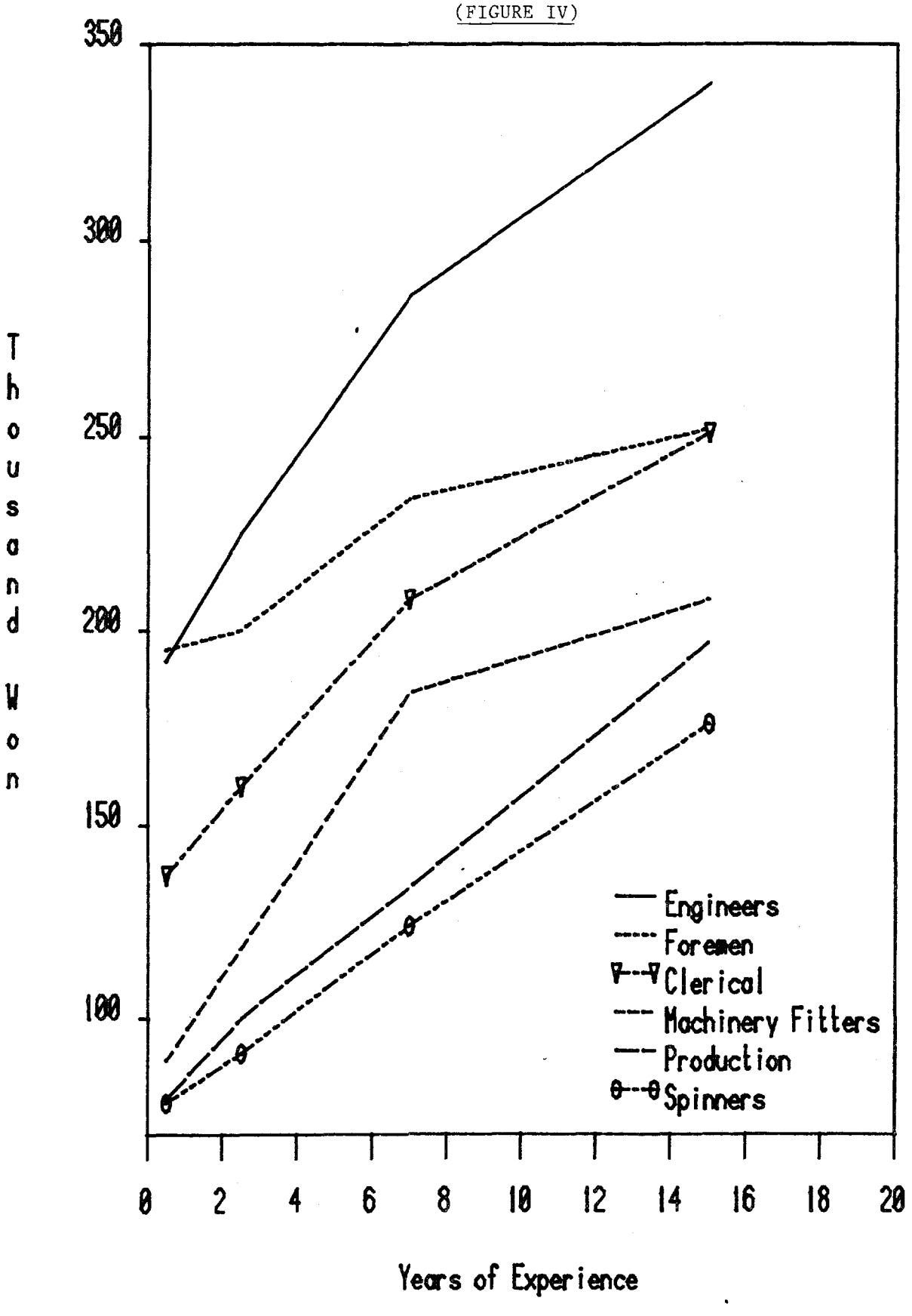
/1 In Figure IV, earnings were plotted at the midpoint of the first three experience intervals: 0.5, 2.5 and 7 years. For the open-ended category, earnings were plotted at 15 years of experience.

Experience Earnings Profiles By Occupation (1980)

(FIGURE IV)



augmenting human capital at more sophisticated occupations. Note that the production supervisor and general foreman category is not consistent with this trend.

With these profiles as background, the responsiveness of earnings to experience due to macroeconomic events can be considered. For the six occupations depicted in the preceding Figure, Table 8 provides estimates of how the returns to experience have varied over time. For each occupation, the ratio of earnings in the <1, 1 - 4 and 5 - 9 experience intervals to earnings in the $\geq$10 interval is presented for 1975, '78 and '80. Focussing only on the experience of new entrants, there is evidence of general tightening (e.g., spinners, etc.), widening (e.g., engineers, etc.) and variability (e.g., production, etc.) in experience differentials over time. Based only on this sample no single trend is apparent, suggesting that varying market and institutional conditions affect each occupational labor market.

This lack of a consistent trend is somewhat surprising, especially for 1978. Given the strength of labor demand in that year, it might have been expected that experienced workers would have emerged as especially scarce. A widening of differentials should have then emerged. Although we cannot account for why this did not occur, we can consider one possible explanation. If internal wage structures rather than market forces dominate occupational wage determination, then rigidities in the changing of relative wages may operate. Although quantitative standards for when wage rigidity is in evidence are not available, the data of Table 8 show large relative wage changes over only 2- and 3-year intervals, i.e., compare, say, 1975 to 1978 earnings experience ratios for any given occupation. Such evidence does not appear consistent with internal wage structures as the explanation of the trend in experience differentials over the business cycle./1

/1 Note that this is not a good test for the existence of internal wage structures since the data are not firm specific. Inter- as well as intra-firm changes plus differences due to occupational mobility will contribute to the observed variance in earnings by experience.

Table 8: EARNINGS EXPERIENCE RATIOS BY SELECTED OCCUPATIONS FOR SELECTED YEARS /a

	Years of experience			
	<1	1 - 4	5 - 9	≥10
Engineers, architects and related technicians				
1975	.61	.77	.94	1.00
1978	.53	.68	.82	1.00
1980	.56	.66	.84	1.00
Production supervisors and general foremen				
1975	.63	.73	.85	1.00
1978	.68	.82	.96	1.00
1980	.77	.79	.93	1.00
Clerical and related workers				
1975	.53	.64	.85	1.00
1978	.47	.59	.78	1.00
1980	.54	.64	.83	1.00
Machinery fitters				
1975	.32	.48	.73	1.00
1978	.40	.60	.87	1.00
1980	.43	.56	.88	1.00
Production and related workers				
1975	.32	.43	.71	1.00
1978	.27	.36	.79	1.00
1980	.40	.51	.68	1.00
Spinners, weavers, knitters, dyers and related workers				
1975	.34	.49	.67	1.00
1978	.40	.51	.70	1.00
1980	.44	.52	.70	1.00

/a The earnings ratio compare earnings of each experience level to earnings in the ≥ 10 years of experience category.

D. The Earnings Structure According to Characteristics of the Firm

Earnings Differentials by Size of Firm

In a competitive labor market, characteristics of the firm such as size or type of ownership should not affect the compensation received by workers, assuming that these workers are identical in all other respects. This competitive condition is rarely met and the existence and persistence of wage differentials by firm size is one of the most robust results of wage structure analyses undertaken in both developed and developing nations. Explanations for this differential vary. Competitive theorists argue that both training and hiring costs produce the differential while bargaining theorists cite the consequences of some form of bilateral monopoly. Dual labor market theories often point to firm size as a critical boundary segmenting primary and secondary labor markets.

Turning to the Korean data, the evidence reported in Table 9, conforms with results from other nations. For almost every year average earnings in manufacturing monotonically increase with firm size. However, since these data are not standardized by skill mix - that is, they do not pertain to identical workers - some of the observed differentials will be due to the presumed increasing skill intensity of larger establishments./1

Given our interest in the efficiency of the Korean labor market, the trend in wage differentials by firm size is of more value than the intra-year findings. The last column of Table 9 illustrates the compression in the earnings structure by firm size. Again, relying on the coefficient of variation as an index of relative dispersion, note that from 1970-1980 inter-firm size differentials declined. The trend has almost monotonically narrowed with relative dispersion falling by 66% over the decade. Cyclical responses, which have been evident in some of the other dimensions of the wage structure, are not readily apparent in this instance. At best, peak growth years have accelerated the rate of compression in firm size wage differentials; at worst, these years have not deviated from the longer run trend.

/1 If one estimates an interindustry earnings function for a given year, where industry earnings are regressed on capital and skill intensity as well as firm size, firm size, ceterus paribus, is significant and positively related to earnings. See Lindauer (1979).

Table 9: EARNINGS BY FIRM SIZE (1970-80)

	Number of employees								Index of relative dispersion/b
	5-9	10-19	20-49	50-99	100-199	200-299	300-499	≥500	
1970	91	110	117	153	162	n.a.	170/a	203	0.273
1971	113	128	144	181	188	n.a.	205/a	234	0.256
1972	121	154	173	202	221	n.a.	243/a	253	0.248
1973	166	204	219	251	263	276	264	305	0.183
1974	206	254	280	317	331	339	381	390	0.201
1975	274	332	365	412	441	427	470	526	0.197
1976	344	425	468	524	538	584	585	672	0.199
1977	476	566	627	683	683	717	791	871	0.183
1978	680	814	885	947	962	1,000	1,075	1,191	0.166
1979	950	1,111	1,214	1,292	1,333	1,298	1,448	1,516	0.142
1980	1,108	1,361	1,478	1,573	1,620	1,689	1,755	1,942	0.163

/a Includes 200-499.
/b Equals the standard deviation of earnings by firm size divided by the mean.

Source: Major Statistics of Small and Medium Industries, derived from Mining and Manufacturing Surveys.

The two ratios tend to converge in the late 1970s. Prior to 1975, a high relative earnings/relative productivity gap existed, implying that small firms were likely to have suffered from a significant cost disadvantage. Note that during this period employment in the small-scale sector declined in both absolute and relative terms. The renewed health of the small-scale sector since the mid-70s, however, is associated with sharp increases in labor productivity.

Table 12: RATIOS OF EARNINGS AND PRODUCTIVITY FOR SMIs AND LARGE INDUSTRIES (1970-79)

Year	Earnings ratio	Productivity ratio
1970	65.3	53.1
1971	67.4	48.5
1972	71.2	47.4
1973	76.9	43.6
1974	75.5	43.2
1975	76.2	63.8
1976	75.3	69.9
1977	76.5	81.7
1978	78.4	75.0
1979	77.6	77.5

/a SMIs are small and medium industries encompassing firms of fewer than 300 employees. Large industries refer to manufacturing establishments employing 300 or more workers.

Source: Derived from Mining and Manufacturing Survey Data.

Regional Wage Differentials /1

Since Korea is both a relatively small nation and one which is known to be ethnically homogenous, persistent regional wage differences are not anticipated on noneconomic grounds. However, regional disparities due to economic factors cannot be similarly discounted. Most Korean industrial

/1 Although location is as much a characteristic of individuals as it is of firms, the regional dimension of the wage structure is treated in this section on firm characteristics because, at least in the short run, firms are probably relatively less mobile than workers.

In analyzing the movement of these wage changes, it is worth repeating that firm size differentials embody differences attributable to skill mix. Whereas this poses a problem for interpreting cross-section differences, for analyzing time trends, nonstandardization by skill mix probably biases the results in a conservative direction. For differences in the skill mix to account for the secular compression in relative dispersion, small firms would have to become increasingly skill intensive relative to large firms. Although the data are not readily available to refute this hypothesis, knowledge of Korean development during the 1970s suggests that such an outcome is improbable.

A more disaggregated view of the time trend in wage differentials by firm size is provided by Park Fun-Koo (1981). Using OWS data, Park demonstrates that throughout the 1970s, wage differentials by firm size were reduced for both men and women, and for both production and administrative personnel. Park's results are reproduced as Table 10 below. The inter-skill mix dimension of Park's work suggests that for any given year white collar occupations experience the greatest differential by firm size. This result is expected since the level of skill and responsibility required of administrative workers increases with firm size.

Table 10: EARNINGS BY FIRM SIZE BY SEX AND OCCUPATION, SELECTED YEARS

	1973	1975	1977	1979	1980
Men					
10 - 29	-	72.5	72.2	81.1	83.8
30 - 99	-	83.2	83.9	84.7	87.3
100 - 499	-	89.4	92.8	91.6	95.7
≥500	-	100.0	100.0	100.0	100.0
Women					
10 - 29	-	91.5	99.7	105.8	103.1
30 - 99	-	99.8	103.9	106.8	102.1
100 - 499	-	87.5	91.9	95.2	97.1
≥500	-	100.0	100.0	100.0	100.0
Administrators					
10 - 29	-	54.9	66.1	79.8	63.8
30 - 99	-	70.0	80.0	83.9	73.8
100 - 499	-	87.7	87.1	95.5	84.0
≥500	-	100.0	100.0	100.0	100.0
Production workers					
10 - 29	66.8	76.0	83.3	84.2	89.8
30 - 99	82.0	79.8	87.8	89.2	86.2
100 - 499	95.8	88.3	84.4	100.0	97.3
≥500	100.0	100.0	100.0	100.0	100.0

Source: Park (1981).

The empirical findings presented above indicate that differentials by firm size have eroded over time. These results are consistent with a market environment in which firms are forced to compete for workers. As an additional question it would be useful to know what impact this wage competition has had on small firms. Has labor market efficiency been achieved at the price of losing the small-scale sector?

In Table 11 the number of workers and their relative share of total manufacturing employment by firm size are presented for selected years. From 1971 to 1975 employment in the smallest firms (5-19) fell in both absolute and relative terms. Given that this was a period of total employment growth, the decline is even more substantial. If the small-scale sector is more broadly defined to include employment in all firms with

fewer than 200 employees, 1971-75 remains a period of declining employment while post-1975 experience shows considerable growth in absolute employment levels and some increase in relative shares. What these results imply is that wage competition during the latter 1970s did not crowd out smaller establishments. In an indirect way this supports an aspect of the efficient labor market hypothesis. If institutional arrangements forced small firms to accept the high wages of large scale establishment, then the continued demise of the small-scale sector would be expected. After all, the competitiveness of their product markets would leave little room for paying excessive wages. The viability of the small enterprise sector, therefore, argues against this interpretation.

Table 11: DISTRIBUTION OF EMPLOYMENT BY FIRM SIZE FOR SELECTED YEARS

Year	Number of employees				
	5-19	20-49	50-99	100-199	>200
1971	149/a	87	68	87	456
	(17.6)/b	(10.3)	(8.0)	(10.3)	(53.8)
1975	132	115	124	163	886
	(9.3)	(8.1)	(8.7)	(11.5)	(62.4)
1977	145	165	170	242	1,197
	(7.5)	(8.6)	(8.9)	(12.6)	(62.4)
1979	170	205	205	256	1,281
	(8.0)	(9.7)	(9.7)	(12.1)	(60.5)
1980	166	204	207	251	1,187
	(8.2)	(10.1)	(10.3)	(12.0)	(58.9)

/a In thousands of workers.

In order to maintain a market interpretation of the erosion of earnings differences by firm size, productivity differentials should be correlated with earnings differentials. If small firms had only experienced relative wage growth without complementary productivity growth then the demise of the small-scale sector would again be predicted. For two firm size categories - small and medium industries (SMIs) with employment of less than 300, and large industries employing more than 300 - Table 12 presents the ratios of earnings and productivity measures over the 1970s.

The two ratios tend to converge in the late 1970s. Prior to 1975, a high relative earnings/relative productivity gap existed, implying that small firms were likely to have suffered from a significant cost disadvantage. Note that during this period employment in the small-scale sector declined in both absolute and relative terms. The renewed health of the small-scale sector since the mid-70s, however, is associated with sharp increases in labor productivity.

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/a SMIs are small and medium industries encompassing firms of fewer than 300 employees. Large industries refer to manufacturing establishments employing 300 or more workers.

Source: Derived from Mining and Manufacturing Survey Data.

Regional Wage Differentials /1

Since Korea is both a relatively small nation and one which is known to be ethnically homogenous, persistent regional wage differences are not anticipated on noneconomic grounds. However, regional disparities due to economic factors cannot be similarly discounted. Most Korean industrial

/1 Although location is as much a characteristic of individuals as it is of firms, the regional dimension of the wage structure is treated in this section on firm characteristics because, at least in the short run, firms are probably relatively less mobile than workers.

activity is concentrated in the Seoul or Busan vicinity. In 1980, 71% of all manufacturing employment was situated within these two cities and their surrounding provinces. Therefore, it might be expected that labor market circumstances and wage outcomes could vary across regions.

Compression in the regional wage structure can be construed as another test of labor market efficiency. A secular tendency toward the narrowing of regional wage differences is expected if competitive forces operate. Workers seeking better wages and firms attempting to minimize costs would be expected to help arbitrage regional wages.

The only data available to test this hypothesis come from the Mining and Manufacturing surveys. Average annual remuneration for all workers, and for production and administrative personnel separately, are stratified according to 11 regional classifications and by 9 manufacturing subsectors. As Table 13 illustrates, significant nominal regional earnings differential have existed since 1955./1 Furthermore, shifting in the rank ordering of regional earnings has occurred with Seoul not always in the wage leading position.

The market efficiency hypothesis predicts secular narrowing in regional wage differentials. Choosing the coefficient of variation as an index of earnings dispersion, the bottom line of Table 13 illustrates the significant compression in regional earnings which has occurred throughout the recorded period. The actual measure of dispersion employed in this analysis is based on Korea's two "special" cities, Seoul and Busan, and on 8 of its 9 provinces. Jeju, a small island off the Korean coast accounting for less than 0.5% of 1980 employment in manufacturing, was excluded from the computations. As an extreme outlier it would otherwise generate significant distortions in the variance measure.

The univariate analysis of regional wage dynamics just offered does not, of course, account for the impact of changing regional skill mixes. However, if the observed compression is to be explained by differential rates of changing skill intensity across regions, then it must

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/1 Nominal earnings are used because regional price indices are not available to deflate each year to the same base. Cost-of-living differences will, therefore, account for some, but unlikely for all, of the observed regional variance in earnings.

Table 13: EARNINGS BY REGION IN MANUFACTURING (1955-80, SELECTED YEARS)
(In current W'000 p.a.)

Region	1955	1958	1963	1967	1970	1972	1975	1976	1978	1979	1980
Seoul	22	30	48	93	182	256	467	599	1,064	1,408	1,769
Busan	n.a.	n.a.	40	85	161	209	408	555	971	1,279	1,570
Gyeanggi	16	24	47	102	181	236	486	625	1,106	1,448	1,787
Gangweon	15	22	39	72	155	187	570	519	927	1,358	1,588
Chungbug	12	16	45	96	165	222	493	563	1,006	1,261	1,658
Chungnam	10	16	31	72	128	189	390	504	897	1,202	1,442
Jeonbug	12	17	30	56	127	181	330	459	839	1,210	1,454
Jeonnam	12	18	35	60	113	124	360	483	898	1,230	1,624
Gyeongbug	12	18	35	70	120	169	420	534	994	1,299	1,624
Gyeongnam	16/a	21/a	28	73	165	222	545	740	1,294	1,611	2,062
Jeju	6	12	20	44	74	119	200	293	675	871	1,083
Nat'l. ave.	15	24	40	82	160	217	459	588	1,052	1,380	1,723
Relative dispersion/b	.257	.228	.190	.198	.170	.176	.176	.146	.131	.097	.109

/a Includes Busan.
/b The standard deviation divided by the mean of regional earnings excluding Jeju province. See text for explanation.

Source: Mining and Manufacturing Surveys.

be the case that formerly low-wage areas evolve into skill-rich regions - an unlikely form of spatial development./1

Along with the results on earnings by firm size, the findings on regional differentials provide evidence of wage dynamics consistent with both competition and labor market efficiency. A continued long run narrowing of these differentials can be expected, although in the short run,

/1 Furthermore, Lindauer (1983) presents econometric evidence that regional differentials decline over time after proxies for skill mix have been held constant. In that study, an interindustry, interregion earnings function is estimated for individual years. Capital intensity, size distribution of firms as well as the white/blue collar and sex mix are included as independent variables along with region specific dummy variables. The results confirm the evidence cited above, namely that the variance in regional earnings in Korea has diminished over time.

based on evidence for 1980, a small widening may occur as competition between firms for workers diminishes. It appears that competition between workers for jobs does not produce the same type of wage adjustments as does competition between firms for workers. In periods of slack labor demand, some firms, having the capacity to do so, may attempt to "hoard" experienced workers in anticipation of a cyclical upswing. Widening earnings differentials across a number of dimensions of the wage structure in 1980, may reflect such practices. However, it should be emphasized, based on past experience, that such deviations from the long run trend tend to be both small and short-lived.

Public/Private Sector Wage Differentials

A comparison of public and private compensation has already been encountered in the earlier discussion of interindustry wage trends. It was noted that public and private sector wage increases were not well correlated over the 1970s. In this section a cross-sectional view will be adopted. Of interest is whether a wedge exists between the pay received by public versus private employees in similar occupations. If such wedges do exist, then an inefficiency in the labor market may result. If, for example, civil servants earn less than private sector counterparts, job turnover and low levels of job performance may characterize public employment. Alternatively, if the wage premium accrues to the public employee then job queuing, nepotism and other inefficiencies associated with "rent seeking" /1 activities may proliferate.

Wage comparisons for one year, let alone over time, for public and private employees are not readily available for most nations. The presumed wage taker position of public authorities has perhaps minimized the amount of empirical research in this area. In the Korean case, neither the MWS nor OWS include government agencies in their sampling frames, therefore, no comparisons can be made based on a unified data source.

What is available is a study by Park Se-Il (1981b) which relies on OWS for data for the private sector and published civil service salary scales for the public sector. For different occupations (e.g. starting manager in a large firm versus 1980 Grade 3B in the civil service, i.e. presumed entry positions of male college graduates), Park shows whether, in 1980, government workers received higher or lower total earnings than did private employees. He further derives estimates of life-time earnings based on expected promotion patterns. Park's general conclusions are that public employees earn less, and that the differential increases as skill and education levels increase. For college graduates, a private employee's entry wages are approximately 35% higher; for junior college graduates 30% higher;

/1 See Kreuger (1974)

and, for high school graduates engaged in clerical work the entry differential falls to 15%. For all education and occupation groups the differential narrows appreciably after age 40./1

The existence of a private sector wage premium led Park to examine the strength of demand for public sector employment. He found that since the mid 70s the ratio of applicants to job openings has remained relatively constant and seemingly high -- around 40 applicants/job for non-clerical posts. Annual public sector turnover rates, averaging 6.3% per annum, and voluntary quit rates, 5.3%, also did not seem high by national standards. MWS data report monthly separation rates averaging 4.5% during the same period for employees in the private formal economy. The relatively low turnover rates in the public sector are all the more dramatic considering that the late 70s were a period of high wages and labor demand in the private economy.

Park concludes that a number of compensating differentials most probably account for the observed findings. Security of job tenure, pecuniary and non-pecuniary perquisites of public office not reported in total earnings, and a general Korean "preference" for government work help reconcile the earnings disparities.

For our purposes, the results reinforce our skepticism over the government's playing a wage leadership role. Furthermore, civil service salary reform is likely to emerge in the medium term as an issue of public sector performance not an issue of labor market wage distortion.

Union Differentials

One of the admitted purposes of trade unions is to raise wages. If a union does so by extracting a monopoly rent either through restricting the supply of labor or through the use of strikes or other activities which increase production costs but not productivity, then the union's actions can be seen as generating inefficiencies within the labor market. If, however, unions contribute to increasing the productivity of workers or if union power offsets the monopsony power of employers, then unions may contribute to the efficiency of labor market outcomes. The analysis of union wage effects and their efficiency implications occupies a large share of contemporary labor economics research. For the U.S., although the presence of a union wage effect is beyond dispute, its efficiency implications have not been resolved.

/1 Park also found the following:
(i) significant intra-public sector wage differences;
(ii) compression in the public sector's own wage structure from 1978-81.

In Korea, where union power is minimal due, in part, to government actions which have limited the scope of bargaining units and the use of strikes and other exhibitions of labor power, a significant union wage effect is not anticipated. The only available evidence of union/non-union wage differentials comes from a survey of individuals collected by Prof. Bai of Seoul National University.

Both Bai (1977) and Park Se-Il (1981a) have analyzed the earnings profile of the 1115 respondants to this survey. The survey, undertaken in June 1976, reports 35.2% of the sample as members of trade unions. This is likely to be a larger percentage than prevails in the formal economy since the sample is biased toward larger establishments. According to Bai, trade union members received, on average, 26% higher wages than did the non-unionized individuals in the sample. This positive union wage effect does not, of course, adjust for any other wage determining factor such as age, sex, education, or experience.

Park Se-Il (1981a), using the same data, controlled for human capital variables by regressing individual earnings on education, work experience and a number of other firm and work specific characteristics./1 Running separate equations for men and women, Park found that a union/non-union dummy variable was not significantly different from zero in any specification which included human capital proxies. He, therefore, concludes, "This suggests that unions do not, in fact, make any difference as far as worker's earnings are concerned..."/2

E. Cross-section results on the Korean Wage Structure

The limitation of the univariate and bivariate analysis of the wage structure conducted thus far is its inability to simultaneously account for the various factors which determine earnings. Therefore, when analyzing the time trend of, say, the college/high school earnings ratio, the interpretation must be qualified since the independent effects of changes, for example, in worker experience and in the evolving size distribution of firms have not been controlled for. A multivariate analysis of earnings can overcome these limitations. Estimation of earnings functions permits the statistical identification of the partial effect on earnings of both worker and firm related characteristics. The

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/1 These estimations will be further discussed in the proceeding section.

/2 Park Se-Il (1981a), p. 38.

weakness of the multivariate approach in the Korean context is the lack of data for a sufficient number of years. Restricted, in most cases, to data from a single year, previous studies have relied on cross-section findings to approximate time series trends. This common approach with its recognized form of bias is particularly troublesome in this context due to the dynamic nature of the Korean economy. As such, the univariate analysis presented above may be superior to the cross-section, multivariate studies for understanding the evolution of the Korean wage structure.

The cross-section studies which have been undertaken complement the findings on wage structure reported above. The available studies, most of which have already been referred to, include Bai's (1977) and Park Se-Il's (1981a) work on a 1976 survey of 1115 individuals employed in registered firms; Park Fun Koo's (1981) analysis of 1980 Occupational Wage Survey data; and, Kim (1973) and Lindauer (1979, 1983) and their use of published interindustry data.

These studies indicate, ceterus paribus, that education yields a positive return to both men and women, that work experience increases earnings, but at a decreasing rate, that sex differentials remain after controlling for human capital attributes and firm specific characteristics, and that differentials by firm size manifest themselves regardless of the permutation of wage data.

In addition to confirming these trends, Park Se-Il (1981a) finds that it is possible to explain a larger proportion of the variance in male than female earnings. This may suggest the greater role of institutions and custom in female wage determination. Park also notes that employment in enterprises with foreign involvement yields, ceterus paribus, some wage benefit although the statistical result is only strong for women. In Lindauer's (1979) multivariate examination of the interindustry earnings structure, he finds that the determinants of this structure in Korea bear considerable statistical similarity to the determinants of the U.S. earnings structure in manufacturing. The result implies similarities between the nations in the outcome of the wage setting process and may further imply similarities in the process itself.

For our purposes, the consistency of the cross-section findings with our time trend results is what is of most importance. There are no apparent areas of conflict which might require a reinterpretation of the trends reported above./1

/1 It is important to note that both Park Se-Il(1981a) and Kim (1973) interpret some of their findings as supportive of models of labor market dualism and of "custom" as a determinant of wage setting within the formal economy. The significance, ceterus paribus, of firm size variables is critical to this interpretation. The interested reader is directed to the original works for an accounting of this interpretation.

F. Conclusion

In any economy wage and employment outcomes are influenced by the forces of labor supply and demand as well as by the institutional environment in which these outcomes are produced. Alternative theories of the labor market - perfect competition, monopsony models, non-competing groups, dual and segmented markets - vary according to the emphasis placed on how these alternative forces influence wages and employment. The models also differ regarding their implications for the efficiency of the labor market, its distributional properties and the policy initiatives which should be pursued. Trying to determine which of these alternative models best depicts the Korean situation was not the primary objective of this chapter. To attempt to have done so would have implied that empirical tests exist by which competing hypotheses could be definitively accepted or rejected. Such conclusive tests do not exist. Instead our main objective was to assess the responses of Korean earnings to macroeconomic trends. By so doing we hope to have gained some insight into the allocative properties of the labor market and the likely path of future wage movements.

ANNEX

Table A1: TOTAL MONTHLY EARNINGS BY SEX AND LEVEL OF EDUCATIONAL ATTAINMENT (1971-1981)
(In current won)

Year	All workers	College & university	Junior college	High school	Middle school	Primary school
			Men			
1971	28,961	52,961/a	n.a.	31,121	22,756	20,431
1972	29,319	55,430/a	n.a.	31,780	23,415	20,360
1973	35,944	67,154/a	n.a.	38,108	27,033	24,325
1974	48,490	93,535	65,960	49,020	36,568	33,172
1975	60,319	123,573	80,515	61,754	43,732	40,087
1976	82,871	172,354	114,334	81,917	57,639	52,456
1977	102,924	209,747	142,121	102,222	72,734	68,343
1978	135,089	278,539	188,656	135,650	97,443	91,853
1979	189,278	376,535	251,037	181,929	140,381	135,510
1980	222,957	425,904	282,250	210,117	164,896/b	n.a.
1981	266,633	505,291	334,051	251,927	197,566/b	n.a.
			Women			
Year	All workers	College & university	Junior college	High school	Middle school	Primary school
1971	12,497	37,702	n.a.	20,363	11,393	9,584
1972	13,225	43,190	n.a.	20,763	12,167	10,754
1973	16,287	47,531	n.a.	24,503	14,427	13,139
1974	24,904	59,947	45,061	31,508	19,656	18,115
1975	25,465	77,187	55,543	37,855	22,872	21,611
1976	36,396	117,842	73,747	48,522	32,616	30,474
1977	45,199	144,085	83,988	58,900	40,843	39,283
1978	58,662	164,684	111,965	76,947	52,141	49,887
1979	80,159	205,895	151,724	101,033	70,971	69,019
1980	95,692	257,923	186,220	115,647	83,567/b	n.a.
1981	118,736	329,249	226,764	143,457	102,246/b	n.a.

/a Includes Junior Colleges.

/b Includes Primary School.

Source: Occupational Wage Surveys (1971-1981)

Table A2: TOTAL MONTHLY EARNINGS BY SEX AND LEVEL OF EDUCATIONAL ATTAINMENT (1971-1981)
(In current won)

Year	Men			Women		
	College	High School	Middle & Primary	College	High School	Middle & Primary
1971	52,401	31,121	21,556	37,702	20,363	10,250
1972	55,430	31,178	21,919	43,190	20,763	11,305
1973	67,154	38,108	25,778	47,531	24,503	13,685
1974	88,961	49,020	35,111	55,525	31,508	18,732
1975	117,444	61,754	42,161	70,869	37,855	22,165
1976	n.a.	81,917	n.a.	n.a.	48,522	n.a.
1977	199,158	102,222	71,013	122,734	58,900	40,073
1978	264,160	135,650	95,467	146,354	76,947	51,082
1979	354,606	181,929	138,621	185,627	101,033	70,060
1980	399,340	210,117	164,896	230,382	115,642	83,567
1981	473,905	251,927	197,566	289,121	143,457	102,246

3. ASPECTS OF THE WAGE PAYMENT SYSTEM

A. Introduction

The previous chapter considered the trends in Korean earnings in the formal sector as well as the evolution of the Korean wage structure. In this chapter, other aspects of the wage payment system will be examined. In particular the structure of compensation will be described and the prevalence of permanent employment systems, analagous to those in Japan, will be reviewed. These topics provide more institutional detail on the workings of the Korean labor market while also exposing economic issues not revealed by the analysis of earnings alone.

B. STRUCTURE OF COMPENSATION

An element of any industrial labor relations system is the composition of total remuneration received by workers. In addition to basic wages, workers may receive overtime pay, annual or seasonal bonuses, incentive payments, insurance coverage, special allowances for education or family circumstances, and a host of other fringe benefits. Custom and tradition, as well as economic forces, will affect not only the composition of the compensation bundle but also the relative significance of individual benefits. In the Korean case, the legacy of Japanese colonialism exerted considerable influence over the wage payment system, therefore, where appropriate, comparisons between Korea and Japan will be presented.

The most striking characteristic of Korean compensation schemes is the relative magnitude of allowances and bonuses. In 1981, according to the OWS, the average worker received 70% of his compensation in basic wages. (In this context, basic wages include base pay as well as cost-of-living or family allowances or any other similar payment made on a regular monthly basis.) The remaining 30% was roughly divided between overtime and bonus

payments./1 By comparison, in the mid-1960s, Japanese workers received close to 77% of compensation in basic wage. The corresponding U.S. figure would be closer to 90%./2

A finer breakdown of the Korean compensation structure is exemplified in Exhibit I-a below, the breakdown of the monthly starting pay of a college graduate working at the Bank of Tokyo in Seoul in April 1979./3

/1 A 1980 survey of over 700 establishments conducted by the Korean Employers Federation arrived at similar figures. Basic wages amounted to 73% of average labor payments, while bonuses, overtime and other forms of compensation accounted for 15%, 11% and 1.7%, respectively. Labor payments accounted for 87% of all labor costs. The remaining percentage primarily represents severance payments, payments in-kind and welfare costs required by law. Large firms, those employing more than 300 workers, paid a somewhat greater percentage of compensation in the form of nonbasic wage payments as indicated in the table below:

BONUSES AND OVERTIME PAY AS A PERCENTAGE OF TOTAL REMUNERATION BY FIRM SIZE

Firm size (No. of employees)	Production Workers		Administrators	
	% bonus	% overtime	% bonus	% overtime
10- 29	7.3	12.1	10.1	1.1
100-299	8.5	25.5	14.4	3.9
+ 500	13.0	24.2	20.8	6.0

/2 Kim (1973).

/3 Park (1979).

Exhibit Ia

Monthly Total	₩ 300,000 (100%)
Basic wage	114,486 (38.2%)
Overtime premium	103,038 (34.4%)
Transportation and meal allowance	11,875 (3.9%)
Duty allowance	22,897 (7.6%)
Bonus	47,704 (15.9%)

Source: Park (1979)

Exhibit I-b

I. Monthly payments

1. Basic payment
2. Allowances

a. Living allowance /1
b. Encouragement allowance /2
c. Other allowances /3

II. Annual special payments (bonuses)

III. Statutory fringe benefits

IV. Nonstatutory fringe benefits

/1 Includes allowances reflecting different cost of living of each employee such as dependent allowance, housing allowance, and locality allowance.

/2 Includes allowances such as overtime, holiday work, night shift, skill, position, and special assignment.

/3 Education allowance, continuous service allowance, etc.

In this instance, basic wages amount to less than 40% of total monthly payments, however, some of the overtime premium is likely to be guaranteed and as such, may really reflect basic and not overtime pay. A more general disaggregation of Korean compensation, discussed by both Kim (1973) and Park (1980) appears in Exhiboit I-b. The various categories of nonbasic wage payments can be appreciated in this depiction of the compensation package.

The Korean allowance and overtime systems have much in common with the fringe benefit and overtime pay systems of other nations. Allowances cover everything from housing to transportation. Korean firms may employ more of these allowance systems than on average exist in other countries, but there is nothing especially unique in this area./1 Concerning overtime pay, the letter of the law requires time and a half for work over 48 hours if reached by the "mutual agreement" of the parties involved. In practice, Park (1979) notes, "... overtime work is frequently paid at the straight hourly rate. No overtime premium is, in fact, almost a customary practice in most small establishments." /2

What is perhaps most unique to the Korean system are the special annual payments or bonuses. The bonus system is inherited from the Japanese and involves lump sum payments which may be seasonal or annual. Originally introduced during the colonial period (1910-45), and later dismantled during U.S. military rule (1945-48), bonuses reappeared in the 1950s and are now a regular feature of Korean enterprises, especially larger ones./3

In Japan, bonus payments are presently seen as a permanent part of the wage package and in some sense, especially according to unions, are guaranteed. This, of course, was not the case when the bonus system was originated. Initially the success of the firm and the performance of an individual worker determined the extent of the bonus payment.

/1 On this point, Kim (1973, p. 136) writes:

> There are a variety of titles of allowances in all countries, but the number of the titles in Korea is so numerous that it is hard to enumerate all of them. The names are quite different depending on companies so that there is hardly any uniformity in the practice of paying allowances in Korean firms. This suggests that employers by creating a variety of titles of allowances along with the high percentage of allowance payments, seem to attempt to give a strong impression of their benevolent and paternalistic attitudes toward employees.

/2 Park (1979), p. 96.

/3 Park (1980), p. 91.

In Korea, the bonus is not guaranteed in most firms. It tends to reflect business conditions and, therefore, varies across establishments and over time. During some recent years, successful firms are known to have awarded 600% bonuses, meaning that workers received, in addition to their basic pay, the equivalent of 6 months worth of basic wages, usually paid out on a pro-rated, quarterly basis./1 The system extends beyond the private sector with public enterprise and civil servants receiving analogous payments. In 1982, civil servants anticipate a 400% bonus. As illustrated in Table 14a and 14b bonus payments have been becoming an increasingly larger share of total wage payments since the early 1970s. For both men and women the increase in the share of bonuses for all workers has almost tripled. When broken down by education cohort the major cross section finding is as expected - higher education, reflecting higher salaries and more sophisticated occupation categories, tends to yield greater bonuses. This result reflects what is true in advanced economies, namely, that higher education and greater fringe benefits are well correlated./2

In addition to illustrating the evolution of bonus payments over the 1970s, Table 14a and 14b present the share of wage payments due to overtime. Again as expected, overtime and educational attainment are inversely correlated. This is as expected since management and professional occupations, associated with higher levels of schooling, tend to be salaried positions and, therefore, overtime work is not recorded. While college, junior college and high school graduates of both sexes have generally had a decline in overtime earnings, middle and primary school graduates show little trend. The lack of an obvious pro-cyclical pattern in overtime pay is a somewhat surprising finding.

Having described and documented the trend in the structure of Korean compensation, we now consider the economic implications of these developments. Our focus will almost exclusively concentrate on the growing share of bonus payments out of total remuneration.

/1 Park (1979, P. 102) notes:

> According to a survey of 983 firms in the manufacturing industry made in February 1979 by the Korean Chamber of Commerce and Industry, all firms paid bonuses in 1978. ... they ranged from one-half of a month's pay, given once yearly, to 100 percent of a month's pay given seven times or more in a year.

Median bonuses were in the 300-399% wage.

/2 Among other things, progressive income taxation of cash earnings in advanced economies encourages this redistribution of the compensation package.

Table 14a: SHARE OF TOTAL COMPENSATION RECEIVED AS BONUSES AND OVERTIME PAY (Men, 1971-1981)

	Year	All	College	Junior College	High-school	Middle	Primary
Bonus	1971	.055	.079/a	n.a.	.064	.038	.028
	1972	.043	.067/a	n.a.	.052	.025	.017
	1973	.057	.075/a	n.a.	.067	.038	.033
	1974	.076	.107	.085	.084	.050	.044
	1975	.093	.121	.098	.102	.066	.058
	1976	.111	.142	.119	.121	.076	.069
	1977	.113	.148	.121	.122	.080	.069
	1978	.118	.159	.126	.122	.082	.073
	1979	.144	.194	.156	.146	.105	.092
	1980	.136	.182	.142	.140	.095/b	n.a.
	1981	.144	.194	.162	.146	.100/b	n.a.
Overtime	1971	.199	.140/a	n.a.	.206	.209	.214
	1972	.156	.110/a	n.a.	.174	.181	.167
	1973	.179	.099/a	n.a.	.175	.206	.201
	1974	.166	.102	.128	.178	.211	.197
	1975	.164	.094	.121	.178	.214	.201
	1976	.161	.065	.093	.174	.248	.237
	1977	.133	.045	.079	.135	.211	.212
	1978	.142	.050	.079	.139	.222	.217
	1979	.155	.064	.098	.152	.231	.234
	1980	.135	.047	.077	.135	.250/b	n.a.
	1981	.154	.040	.066	.131	.214/b	n.a.

/a Includes college and junior college graduates.

/b Includes middle and primary school graduates.

Source: Occupational Wage Surveys, MOL.

Table 14b: SHARE OF TOTAL COMPENSATION RECEIVED AS BONUSES AND OVERTIME PAY (Women, 1971-1981)

	Year	All	College	Junior College	High-school	Middle	Primary
Bonus	1971	.044	.058/a	n.a.	.083	.041	.020
	1972	.033	.046/a	n.a.	.065	.030	.016
	1973	.042	.049/a	n.a.	.072	.041	.022
	1974	.039	.051	.061	.090	.042	.032
	1975	.067	.093	.087	.108	.061	.039
	1976	.085	.132	.109	.135	.074	.055
	1977	.084	.149	.117	.117	.079	.059
	1978	.087	.149	.130	.130	.077	.050
	1979	.107	.166	.143	.153	.093	.070
	1980	.105	.182	.154	.138	.082/b	n.a.
	1981	.112	.179	.165	.154	.084/b	n.a.
Overtime	1971	.201	.085/a	n.a.	.198	.215	.199
	1972	.174	.074/a	n.a.	.150	.193	.189
	1973	.181	.072/a	n.a.	.157	.220	.221
	1974	.210	.063	.088	.141	.202	.228
	1975	.194	.067	.089	.135	.209	.232
	1976	.211	.031	.064	.116	.252	.271
	1977	.184	.024	.068	.087	.210	.245
	1978	.185	.027	.049	.086	.229	.249
	1979	.201	.034	.072	.101	.249	.272
	1980	.176	.026	.055	.080	.235/b	n.a.
	1981	.173	.017	.060	.079	.238/b	n.a.

/a Includes college and junior college graduates.

/b Includes middle and primary school graduates.

Source: Occupational Wage Surveys, MOL.

Korean enterprises may favor granting pay increases through higher bonuses rather than through raising basic wages for several reasons. Both basic wages and bonuses are paid after employees have completed the associated work for which they are being compensated. However, given the relative infrequency of bonus payments, firms maintain control over wage funds longer and thereby enhance their cashflow position. Secondly, both wage customs and Korean labor legislation tie a variety of compensation benefits to basic wages not total pay. Bonuses, overtime and severance pay - by law, one month's basic wages for each year worked /1 - are computed as percentages of basic wages. A firm can, therefore, minimize total labor costs by granting larger bonuses instead of giving what superficially might appear as an equivalent increase in basic wages.

Two additional points, both somewhat less obvious than the two above, may also account for the employer's preference for increasing bonus over basic wage payments. The first concerns wage policy. Although, as has been stated elsewhere in this report, the recent history of government wage guidelines suggests far more of an implicit or indicative policy than one of strict controls, the potential for tighter controls certainly exists. Firms, anticipating such government actions, might prefer to keep basic wages low so as to minimize the potential loss of flexibility in wage setting that controls would impose. Bonuses are seen as under the discretion of the firm and, at least to some extent, beyond the domain of government intervention. Increasing the share of bonus payments, therefore, has increased the margin of potential flexibility in setting wages and determining labor costs. If the government decides to implement wage policies in the future, they will need to take account of both basic wages, special annual earnings and other fringes if the policies are to be effective.

The next point also refers to the flexibility implied by a more bonus-oriented system. Firms are able to exercise more control over their costs by not locking themselves into contractually agreed upon basic wage payments. Since bonus payments are often a function of the firm's success, the firm's profits are not the only factor payment which will adjust to changing business circumstances. Wages as well as profits may fluctuate, even in the short run, due to the enterprise's circumstances. What the firm has thus been able to accomplish is to pass off some of the risks inherent in business activity onto the workers. While such a practice is likely to be good for maintaining profits, it may be viewed as inequitable to the workers who must bear the risk yet who have no voice in affecting business outcomes. It may also be inefficient if, at some level, entrepreneurial

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/1 The Koreans tend not to use the term severance pay but rather refer to this benefit as a retirement allowance. The implications of this misnomer are considered below.

decision-making is weakened by the diminution of associated risks. In general, the added degree of flexibility in wage payments enjoyed by the enterprise is likely to represent the firm's greatest gain from increased use of the bonus system. At the same time workers may see the flexibility in their wage receipts as the cost of this payment method. Although in the current period a pro-business compensation structure may be desirable in order to maintain already low levels of profits, in the future a move toward greater reliance on basic wages may be to the long run benefit of a well functioning labor market. If any change in the reliance on bonuses was desired, a possible starting place could be the public sector where equivalent basic wage payments could replace the present basic wage plus bonus format./1

The large shares of total compensation received as bonuses, overtime and allowances may also impose a social cost due to a reduction in information available to both firms and workers. Whereas information on basic wages is easily transferred, the more complex the structure of compensation, the less likely it is that competitors within the labor market will be well informed about available alternatives.

One final point concerns the use of special allowance and fringe benefits. As in other societies, nonwage perquisites have become a part of the Korean compensation package. What the trend in these payments has been is not known, as data to chart these movements are not readily available. However, by way of an example, we can consider how one benefit - severance pay - may lead to a distortion in the labor market. For all regular employees, one month's severance pay is accrued for each year worked. This money can be collected at the time of termination of employment whether that termination is due to retirement, a firing or a voluntary quit. Since severance and other fringes are costs to the firm which grow in relationship to both the number of regular workers and the level of basic wages, firms have an incentive to minimize the number of regular employees and to curtail the growth in basic wages. We have already considered the latter point. As to the former, rising fringe benefit burdens may induce firms to substitute away from hiring regular employees and instead increasingly relying on casuals.

/1 One other possible consequence of the bonus system, especially if it expands both in terms of share of total compensation and number of workers affected, is its potential impact on prices. In a world of imperfect capital markets, the nonrectangular distribution of pay may generate seasonal price fluctuations linked to the quarterly disbursement of bonus payments. Such seasonal demand shocks may create some degree of seasonal price instability which can be considered as a social as well as private cost of relying on the bonus system. It should be noted, however, that this effect, if it exists at all, may be small and may be of more theoretical interest than of policy significance.

C. Permanent Employment

In addition to the wage contract between workers and employers, the employment contract is another essential feature of any industrial labor relations system. Employment contracts may vary with regard to length of coverage -- in Korea annual contracts are the rule, protocols for layoffs, and the overall permanence or commitment, either implicitly or explicitly, agreed upon by employers and employees. In this section, the permanence of Korean employment contracts is considered. We have already seen how Korea has adopted and adapted the Japanese bonus system and now review the significance and economic implications of the Japanese lifetime employment concept as it applies to Korean industry.

There is a considerable debate in the literature over the true character of lifetime employment in Japan. The origins of this system, its sociological and anthropological prerequisites, as well as its current economic costs and benefits are all subject to a variety of interpretations. For our purposes, we consider permanent employment to be a system whereby firms guarantee, barring some catastrophic occurrence like bankruptcy, lifetime employment to a specific subset of workers who in turn have a commitment to be loyal to the firm and not to seek or accept other employment opportunities. Workers are willing to accept relocation or any other reasonable demand made by management. Workers can also count on the paternalism of the firm and can feel reasonably protected from the vagaries of business conditions. This system is advantageous to the firm because it reduces turnover costs while also encouraging human capital investments in workers. However, the system places an additional fixed cost burden on the firm, depriving it of some of the flexibility associated with labor as a variable cost. For the worker, employment security is acquired at the cost of lower wages, especially at the start of of the working career. A number of other economic costs and benefits characterize the system, some of which will be noted below./1 It is also important to point out that an entire sociological system must prevail in order to maintain the nature of the contract since few of the lifetime provisions are a matter of true legal precedence. An additional prerequisite is a dual labor market structure in which a secondary labor market exists which offers no lifetime guarantees and which absorbs much of the cyclical fluctuations in labor demand associated with industrial economies.

Whether or not the Koreans have developed an analagous system is important for several reasons. For one, the ease of inter-firm and intersectoral worker mobility is critical in an economy anticipating major

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/1 The interested reader is directed to the literature on Japanese lifetime employment for a fuller accounting of these costs and benefits. See for example, Clark (1979) and Cole (1979).

changes in product mix over the medium-term. Secondly, during economic downturns, widespread permanent employment systems pass the burden of weak labor demand and industrial un- and underemployment onto firms, thus relieving some degree of the public sector's responsibility for maintaining household incomes. Thirdly, these systems tend to buy labor peace and dampen wage demands, potentially limiting the need for institutional improvements in the industrial and labor relations arena. We will return to these issues after considering the state of lifetime employment contracts in Korea's formal economy.

A diversity of opinions exist concerning the prevalence of lifetime employment contracts in Korea. In discussions with a small (and non-random) sample of some of Korea's larger and more successful enterprises, some firms indicated the existence of permanent employment while others did not. At a minimum, only management and highly skilled workers would qualify. The bulk of employees, production workers and unskilled operatives, had no employment guarantees and, in fact, exhibited very high turnover rates, often in the neighborhood of 5% per month. The fact that production workers are not covered is somewhat analagous to the Japanese system although lifetime employment is likely to extend further down the occupational hierarchy in Japan than it is in those firms employing the system in Korea.

At a more general level, Korean labor market specialists disagree on the extent of lifetime employment within Korean firms. Kim Hwang Joe (1973) argues,

> Giving a job is considered as a favor by the newly-employed. Once they are employed they remain permanently attached to the firm until the firm is in bankruptcy and no longer able to employ them. Although the surplus labor market condition reinforces the tendency of the employee to attach himself to a firm permanently, the Korean value system in general considers it immoral for a worker to change employers because of monetary motivations. It is also considered immoral for the employer to dismiss a permanent worker except for the gravest case of moral turpitude. Under this permanent employment system, employers can pay low wages under the excuse of inability to pay./1

Arguing the opposite position, Kim Sookon (1978) writes,

> One might expect some similarity between Korea and Japan in their industrial relations system because of the Far Eastern cultural characteristics shared by the two

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/1 Kim (1973), p. 169.

> countries. Surprisingly, however, the results are quite contrary. Twenty-two percent of the Korean workers experienced a willingness to move to another company, which is comparable to the American worker's propensity to move... we can say that Korean workers feel free to shift to a different employer whenever a better opportunity becomes available.../1

Kim Sookon supports his position by citing the results of attitudinal surveys administered to Korean, Japanese and American workers. On average, Korean responses to questions concerning the degree of their commitment to their firm more closely resembled American than Japanese worker responses. However, Korean employees, more than either their American or Japanese counterparts express the opinion that their firms have a greater commitment to keeping them employed, even during times of difficult business conditions./2 This almost suggests a system of tenure - whereby only the firm, not the workers, guarantees employment -- rather than one of lifetime employment where the commitment is mutual.

Bai (1977), using similar attitudinal survey techniques, also found that Korean workers are willing to change jobs for better wages. 52% of his sample of workers in the Seoul area expressed willingness to leave their present employers if offered a 20% wage increase elsewhere./2

Although attitudinal data offer insight into worker commitments, revealed behavior may be a better indicator of the existence of lifetime employment systems. Unfortunately, the data on job turnover and on employment tenure are not sufficiently stratified by age, occupation and sex, to permit accurate testing of the alternative hypotheses. For example, the very rapid turnover rates experienced by Korean firms, rates which in the mid-1970s were twice those of Japan's, are not available according to which of the two labor markets, the one with lifetime guarantees versus the one without, workers belong. As such, the average turnover figures are not a good test for the existence of permanent employment set-ups.

The only readily available data for examining the content of firm specific tenure and hence the prevalence of permanent employment come from the OWS. Duration with the firm plus total years of job experience are reported by occupation. These data appear in Table 15. Note that even for

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/1 Kim (1978), p. 161, 163.

/2 Kim (1978), pp. 163-70.

/3 Bai (1977), pp. 37-38.

Table 15: AVERAGE LENGTH OF DURATION AT FIRM AND AVERAGE YEARS OF JOB EXPERIENCE BY OCCUPATION (1971-81)

Year	Professional	Administrative	Clerical	Service	Production
1971	4.3/6.8 (0.63)/a	6.0/9.1 (0.66)	3.6/4.5 (0.80)	2.2/2.9 (0.76)	2.2/2.9 (0.76)
1972	4.3/6.2 (0.69)	6.2/9.2 (0.67)	3.3/4.2 (0.78)	2.3/3.3 (0.70)	2.3/3.3 (0.70)
1973	4.5/7.1 (0.63)	5.4/9.3 (0.58)	3.2/4.5 (0.71)	2.4/3.5 (0.69)	2.2/3.0 (0.73)
1974	3.4/4.9 (0.69)	6.0/8.9 (0.67)	3.5/4.6 (0.76)	2.9/3.6 (0.81)	2.4/3.0 (0.80)
1975	4.1/6.1 (0.67)	5.5/7.4 (0.74)	3.3/3.7 (0.89)	2.5/3.0 (0.83)	1.9/2.7 (0.70)
1976	4.3/6.5 (0.66)	6.8/8.3 (0.82)	4.1/4.3 (0.95)	3.3/3.7 (0.89)	2.3/3.0 (0.77)
1977	4.4/6.2 (0.71)	5.6/6.7 (0.84)	3.0/3.3 (0.91)	2.9/3.3 (0.88)	2.2/3.2 (0.69)
1978	4.1/6.3 (0.65)	5.8/7.7 (0.75)	3.3/3.7 (0.89)	2.9/3.5 (0.83)	2.3/3.3 (0.70)
1979	4.3/6.7 (0.64)	6.5/8.3 (0.78)	3.4/3.9 (0.87)	3.2/3.9 (0.82)	2.3/3.4 (0.67)
1980	4.0/6.3 (0.63)	6.3/8.4 (0.75)	3.3/3.7 (0.89)	3.1/3.7 (0.84)	2.3/3.4 (0.67)
1981	4.2/6.5 (0.65)	6.4/11.2 (0.57)	3.6/4.5 (0.80)	3.4/4.6 (0.74)	2.6/4.0 (0.65)

/a Ratio of years at firm to years of total job experience.

Source: OWS.

the highest occupations, years of experience in 1981 amounted to only 6.5 and 11.2 years for professional and administrators respectively. Clearly the youthful nature of the Korean formal sector work force is keeping these averages low and subsequently making tests for permanent employment difficult if not premature. By computing the ratio of duration with the firm to years of job experience we get a crude measure of attachment to the firm. If permanent employment was prevalent we would expect the highest occupational categories -- those workers the firm would least like to lose to have the highest level of worker attachment. In fact, the data show the opposite trend. Less skilled employees, albeit with shorter work experience, have spent a somewhat larger percentage of their working years with one firm

throughout most of the 1970s and early 1980s./1 Although not strong evidence, these results further weaken the notion of widespread Korean worker commitment to the firm.

The dual of worker commitment to the firm is the firm's commitment to the worker. For unskilled labor no commitment is apparent. One Personnel Manager commented that he wished turnover was even more rapid than the 2-3% per month the plant experienced. If it were, labor costs could be reduced without any loss in productivity due to the escalation of fringe benefits as duration with the firm increases. For skilled labor and managerial positions, firms would like to retain their employees. Fears of "scouting", that is, pirating by other firms in similar production lines, is often expressed. However, the desire to maintain experienced professionals is as much a simple reaction to their scarcity as it is to any specific institutional arrangement./2 A commitment to maintain skilled workers is likely to be a feature of many Korean firms but the absence of worker commitment to the firm signals the limited role of lifetime contracts currently in use in Korean enterprises.

In recent years, when firms may have wished to lay off employees due to declining business conditions, government intervention as opposed to lifetime employment contracts, has acted to discourage if not deny reductions in work forces. If a firm wishes to discharge workers, a plan and explanation must be first submitted to the local Ministry of Labor Office. Such plans can be accepted or denied and the enforcement mechanism of these policies is part of the intricate web of labor, management, and government interactions which characterize much of the formal industrial labor relations system of Korea.

To summarize, it is difficult to fully assess the level of commitment firms have to their workers for three reasons. One, the high rate of job turnover, most of it apparently voluntary and, especially for women, related to Korean patterns of labor force participation, obviates

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/1 Not much should be made out of the time series dimension of these data. If anything, the intertemporal variance suggests potential irregularities in the data themselves.

/2 Korean enterprises often express a preference for workers who are recent school graduates or who have not had previous employment. Such attitudes, which are consistent with a permanent employment framework, are also consistent with attempts to maximize productivity by minimizing the chances that workers have acquired "bad habits" from other jobs. This is particularly important for production line work. In this context, preference for new entrants need not be construed as indicative of a lifetime employment relationship.

most of the need for a firm to formulate an employment policy. Second, limited experience with economic recessions in the last 10-12 years has provided little stress on employment demands. Third, government intervention, often in an implicit manner, disguises the true long-term character of the firm's position.

For the moment we conclude that lifetime or permanent employment systems such as those that exist in Japan are not a feature of any significant sector of the Korean economy. This is not to say that such a system, as it did in Japan, will not evolve with changing economic and institutional circumstances./1 The absence of lifetime employment systems in contemporary Korea, is important for descriptive purposes as well as for policy implications. The latter might include the following:

(a) continued confidence in labor mobility to support development of new economic sectors;

(b) greater government responsibility in insuring incomes, if not employment, during cyclical downturns (a matter of growing importance given the Korean economy's increasing dependence on export, and hence exogenous demand);

(c) potential need for greater public investments in job specific human capital through, for example, training and vocational centers, due to the limited degree of such investments that firms, fearing the turnover of trained workers, are willing to undertake;

(d) the potential need for institutional development of better industrial and labor relations systems since within-enterprise system are likely to be insufficient for facilitating the dialogue between workers and employers over wage and employment solutions.

In conclusion, the results of this Chapter indicate that although the Koreans may have adopted aspects of their industrial relations system from other societies, they have also adapted them to their own circumstances and now possess systems which are uniquely Korean.

/1 Some economists argue that the Japanese system evolved in response to the militancy of trade unions in the late 1940s toward employment security. Lifetime employment then emerged as a mechanism for buying labor peace. See Cole (1979).

4. WAGES, PRICES, PRODUCTIVITY AND EXPORTS

A. Introduction

Since the early 1970s the overall trend in nominal and real earnings in the Korean formal economy has been generally increasing. Chapter 2 documented these trends. The implications of these wage movements are varied. Significant improvements in the real standard of living of many Koreans have been realized. Within the formal economy, the distribution of output between profits and earnings has changed with this movement likely to have favored labor. Wage developments have affected relative factor prices, which in turn have influenced substitution in industrial production. On a more macroeconomic level, earnings trends are likely to be implicated in both the inflationary episodes of the last decade and the changing comparative advantage of Korean exports. Although all of these issues are deserving of further investigation, the focus of this chapter will be on the role the labor market played in the price inflation of the late 1970s. Special attention will be given to the relationship between wage and productivity growth during this period.

B. The Empirical Context

By late 1981 and through the first quarter of 1982 price inflation was no longer the most pressing issue facing the Korean economy. A recession, which we have already seen reflected in labor market trends, had become a e more serious problem. However, in the years prior to the current downturn, rapid price inflation plagued Korea. In Table 16, using the CPI as an index of price inflation, annual rates of price increases are seen to have accelerated from 1976-1980 and to have been sustained at relatively high levels in 1973-75 and 1979-1981.

Although a variety of factors potentially contributed to the various inflationary episodes, including oil shocks, exchange rate policy and international transmission of inflation, our discussion will be limited to the relationship between wage growth and price increases. In Table 16, wage and price movements can be easily compared. From 1971-1979 increases in nominal earnings exceeded the annual percentage change in the CPI. Only since 1980 have prices surpassed wages, consistent with the earlier finding of recent real wage decline. That nominal wage increases exceeded price movements throughout the 1970s is not surprising, since productivity growth accounts for much of the observed wage trend.

Table 16: EARNINGS, PRICE AND PRODUCTIVITY TRENDS (1971-81) /a

	Annual Percentage Change			
	Earnings (1)	CPI (2)	Real earnings (3)	Productivity (4)
1971-72	13.9	3.2	2.4	17.3
1972-73	18.0	11.7	2.0	8.8
1973-74	35.3	24.3	14.3	11.4
1974-75	27.0	25.3	8.8	11.6
1975-76	34.7	15.3	1.4	7.5
1976-77	33.8	10.1	16.8	10.4
1977-78	34.3	14.4	21.5	12.0
1978-79	28.6	18.3	17.4	15.8
1979-80	22.7	28.7	8.7	10.7
1980-81	20.1	23.3	-4.7	15.8

/a Earnings and productivity refer to the manufacturing sector only.

Source: Monthly Wage Survey.

Real earnings, however, only exceeded productivity growth in 1973, and then again during the period of Korea's most rapid output expansion, 1976-78. These years are also coincident with the period of escalating price increases and precede the high inflation levels of 1979-81, leading some observers to cite wages as the primary cause of price inflation during these periods./1

It is worth noting that a divergence between earnings and productivity growth in Korea is not a new phenomenon. Moran, in a study of the years 1963-1974 found the following to be true for data on the entire economy:

> Although the real wage per worker grew by the same proportion as value added per worker during the entire 1962-74 period, there was much leapfrogging between these two variables. For example, between 1966 and 1970 the real average wage grew more

/1 Clearly much of this interpretation depends on the measure of productivity which is chosen. A more complete discussion of productivity measures is contained in the Annex to this chapter.

> than 75% faster than output per worker; between 1970 and 1974 productivity grew almost 50% faster than the real average wage. Average real wages have apparently been growing in a typical lagged-response pattern to spurts in productivity through the period./1

Given this observed pattern of wage, price and productivity growth, what now concerns us are the conclusions that can be drawn regarding the role of wage increases in generating domestic price inflation, especially during the late 1970s. To attempt to answer this question some alternative theoretical frameworks are considered below.

C. Theoretical Background

The intent of this section is not to review the literature on the determinants of price inflation. The aim is simply to consider what alternative models of inflation are consistent with recent macroeconomic trends in Korea.

Inspection of the real wage and productivity trends might lead one to conclude that cost-push pressures were responsible for price inflation. Certainly, if labor was able to demand wages which surpassed productivity growth, a wage-price spiral could follow. However, cost-push models tend to require some monopoly power on the part of labor. Such power, after all, is seen as necessary if labor is to "force" profit conscious firms into paying wages greater than those dictated by productivity. This wage/productivity gap can be generated by powerful trade unions, by wage demands which are strongly supported by the government, and/or by wage customs on other institutions which act to maintain wage rigidities across workers regardless of individual trends in productivity. Cost-push inflations also tend to be associated with declines in capacity utilization and hence output growth. This is because profit receivers are no longer willing to provide former levels of capital at the now lower rates of return. (This interpretation of cost-push inflations led Gordon (1978) to conclude that the only U.S. inflation since WWI that was cost-push induced was the 1973-75 episode resulting from oil and raw material price shocks.)

For a variety of reasons, cost-push arguments are not a totally satisfactory explanation of the Korean inflation of the late 1970s. Output growth was rising not declining during the period 1975-79,/2 although profit margins were shrinking. This suggests that capital owners were not

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/1 Moran (1976) p.199.

/2 After 1979, price inflation exceeded wage inflation, suggesting that cost-push pressures were not likely to be a primary determinant of price rises.

completely discouraged by trends in rates of returns. Furthermore, it is difficult to identify any monopoly element bargaining for labor's position. The Korean trade union movement was seriously emasculated by government actions throughout the 70s and does not appear to have been in a position to extract any monopoly rents. Government wage policy on the other hand, although pro-labor during these years, is unlikely to have been the dominant factor in pushing wage increases beyond productivity gains. In the competitive output markets which many Korean firms faced, it is unlikely that a wage policy which was not designed to be strongly enforced through institutional controls could have maintained the observed wage/productivity wedge over several years. As for wage customs and other wage-setting institutions, the responsiveness of wage differentials to overall macro-economic trends, cited earlier, suggests some weakness in wage rigidities as either a primary source of cost-push pressures or as the chief explanation of price inflation during this period. By not being able to readily identify the force behind a cost-push drive, this explanation of the wage-price spiral loses some of its its appeal, regardless of the observed wage/productivity trend.

Setting aside wage based cost-push explanations, the next obvious candidate is demand-pull. For our purposes, what is of interest is whether demand-pull arguments can account for the observed wage/productivity gap and wage-price spiral. Simply stated, if the Korean economy was experiencing tight labor markets in the late 1970s, productivity growth, inherently a physical not nominal concept, would not have been expected to significantly deviate from the long run trends. Wage increases, meanwhile, may have accelerated as firms bid up labor prices due to the short-run scarcity of manpower. Assuming that such behavior was ultimately accomodated by monetary authorities, a wage/productivity gap could have emerged due to the pressures of excess demand for labor. Once the competitive bidding for labor began, a wage-price spiral, as maintained by the data, may have followed./1

That a widening gap between real earnings and measured productivity emerged in the late 1970s cannot be denied. That rapid price inflation followed this event is also apparent. However, what must be emphasized is that the ultimate determinant of these trends, the force which set these events in motion, need not have originated in the labor market. Although cost-push factors at some level were operative -- wages did rise faster than prices, the escalation in wages may have been due to demand pressures emanating from firms, rather than from wage demands orchestrated by the

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/1 That excess demand bid up wages faster, or at least sooner, than prices is consistent with both the significant share of output and the growth in demand for Korean exports. This external expansionary force first affected labor demand and then wages, which in turn may have translated into increases in the domestic price level.

suppliers of labor services./1 These alternative interpretations must be carefully assessed since the policy implications which follow will vary. In the future, if analogous inflationary episodes repeat themselves, a wage policy "with teeth" may prove to be effective if cost-push is the ultimate determinant of price movements. However, such a policy, although capable of maintaining profit shares in the short run, will not address the fundamental imbalances which are present if excess demand and hence, demandpull forces, initiate the wage-price reactions. Furthermore, a wage policy "with teeth" under conditions of excess demand might produce serious inefficiencies in the allocation of labor, since the market would no longer be permitted "to ration" scarce labor. Firms would be encouraged to find ways of cheating the wage guidelines, and bottlenecks resulting from inadequate matching of labor supplies and demands at the controlled wages might be anticipated. In this instance, any gains in reducing price inflation through wage controls could easily be at the expense of efficiency in factor markets and hence the resulting level of national output. It is unlikely, in the long run, that such a tradeoff would be in the economy's best interest.

/1 Kendrick (1977), one of the recognized experts on productivity, generalizes this point. He notes:

> ... it is obvious that in order to have a stable general price level, average input prices must rise no more than in proportion to total factor productivity. When they do, it is of course no proof of cost-push inflation. Even if increases in aggregate demand are outrunning increases in supply and pulling product prices up, input prices will still rise by more in proportion to productivity. This is because demand-pull inflation first acts to raise profit margins, which are reflected in the factor price measures, and subsequently tends to accelerate increases in wage-rates, the major component of factor prices. In other periods, however, when demand-pull is not evident, as indicated by excess capacity and stable or falling profit margins, an increase in factor prices (predominantly wage-rates) greater than the rise in productivity is generally viewed as evidence of cost push.

A Final Word on Productivity Trends

Given the importance attached to measured productivity trends in assessing macroeconomic developments,/1 it is worth considering some measurement issues concerning Korea's productivity statistics. According to the received theory, wage and productivity trends are expected to be well correlated over the long run. For the U.S., the trend in real average hourly earnings is very close to the trend in output per hour for the 30 years, 1945-75./2 The theoretical explanation is based on neoclassical competitive equilibrium conditions. In the long run firms are expected to produce where marginal costs equal average costs, implying that marginal products of all factors will equal their average products. With regard to labor, average products are the traditional empirical measure of productivity. Since profit maximizing firms employ labor to the point where real wages equal marginal products, we expect that real wages will equal productivity in the long run. This equilibrium condition further implies that real wage growth will equal productivity growth.

As Figure V suggests and as noted earlier, real wages in manufacturing and productivity trends in that sector have not been "almost equal" over the 1970s. In the previous section, we considered some macroeconomic explanations for this observed trend. In this section we briefly discuss some measurement problems./3

The most commonly referred to productivity trend in Korea is compiled by the Korean Productivity Center. This quasi-government agency receives output and input data from a National Bureau of Statistics monthly survey of selected establishments. The output index is based on actual quantities produced, not on the value of production. Aggregation is achieved by means of value added weights pertaining to value added in the base year, 1975. Multi-product firms pose special problems given this formulation.

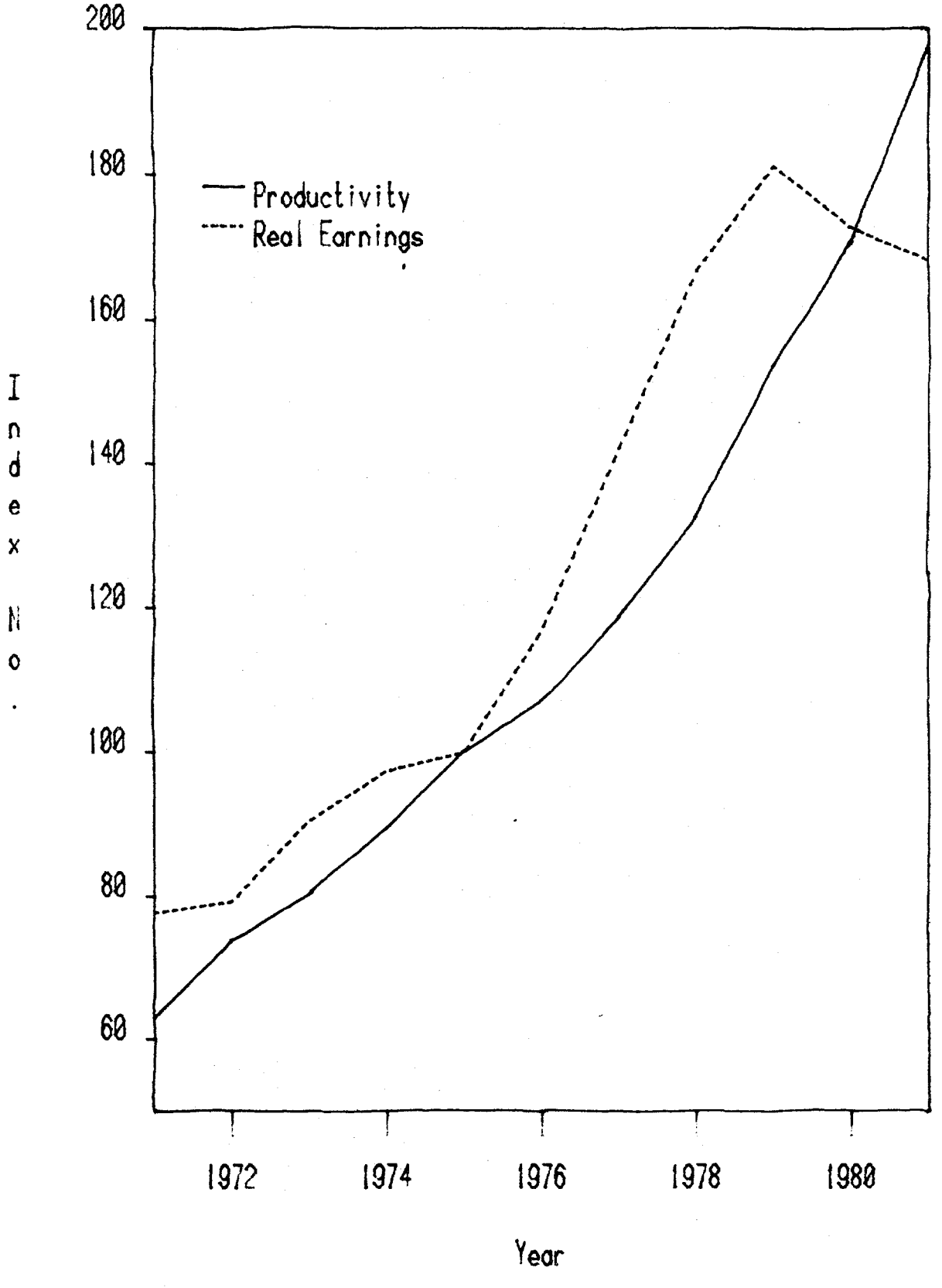
/1 One can further appreciate the significance of measured productivity growth by realizing that the Korean government's implicit wage guideline in 1979 was that wage increases should equal national productivity increases. Needless to say, the economic and political impact of measured productivity, at least in 1979, was considerable.

/2 Kendrick (1977) p. 80.

/3 It should be noted that in Moran's (1976) work on wages and productivity, real compensation per worker exceeded real value added per worker from 1967-1974. Prior to 1967, wages and productivity were more closely aligned. Moran's data, which might extend the observed wage/productivity gap from 1967-80 are, however, based on economy-wide data derived from GDP accounts while our data refer primarily to manufacturing.

FIGURE V

Real Earnings and Productivity in Manufacturing
(1975=100)



The input index is based on man-days of production workers per month. Unlike the output series which is based on a 5-digit SIC classification, input data are organized at a 3-digit level. Furthermore, the input series is weighted by share of total man-hours in the base year rather than by the value added weights used in the output series. The ratio of the input and output series appears as a quarterly estimate of productivity for all industry/1 as well as for approximately 30 industrial disaggregations.

A number of Korean economists and statisticians have pointed out numerous weaknesses in the measured statistics./2 Unfortunately, the biases do not all work in the same direction. For one, the use of different weighting schemes in the output and input series can cause statistical artifacts irrespective of any change in output per worker. Second, the use of man-days rather than man-hours, fails to reflect the impact of overtime work, which, in fact, varies over the business cycle, and hence biases the statistics upward during cyclical peaks. Third, the use of 1975 value added weights fails to capture the significant changes in output composition which have taken place since 1975. In fact, those new industries, such as steel, electronics and shipbuilding, which are likely to have had large capital investments and labor productivity growth since 1975, are precisely those industries which contribute little to the aggregate productivity measure due to their small contribution to value added in 1975. This is likely, on net, to produce a downward bias in the statistic.

As an alternative to the Korean Productivity Center's series one can compute the trend in real value added per worker based on mining and manufacturing data. The correlation between the two series equals .88 and after 1975 the real value added per worker trend provides an equally poor fit relative to the real earnings trend (see Table A3 below).

What this discussion of productivity measurement is meant to emphasize are the limitations of the available data. Whether Korean productivity data are less reliable than similar data for other nations is open to debate, although some of the Korean computation techniques do stand out as particularly weak. However, all productivity measures are known to be crude approximations and in a rapidly changing economy like Korea's during the '70s, the weaknesses of these measures may be even more profound. Recognition of these problems should, at a minimum, reinforce an earlier point, that the observed wage/productivity gap should not be used as the critical piece of evidence supporting any particular theory of labor market and macroeconomic interactions.

/1 This includes manufacturing, mining and electricity.

/2 See Park (1980) and Yoo (1982).

Table A3: COMPARISON OF PRODUCTIVITY AND EARNINGS MEASURES IN MANUFACTURING (1971-81; 1975 = 100)

Year	Real Earnings	Productivity	
		KPC	VA/L
1971	77.7	63.0	74.1
1972	79.3	73.9	75.1
1973	90.6	80.4	88.4
1974	97.4	89.6	95.9
1975	100.0	100.0	100.0
1976	116.8	107.5	105.0
1977	141.9	118.7	118.0
1978	166.6	132.9	138.2
1979	181.2	153.9	126.7
1980	172.7	170.3	136.4
1981	168.2	197.2	n.a.

Definitions and Sources:

(a) Real Earnings = Average monthly earnings for all workers in manufacturing from Monthly Wage Survey.

(b) Productivity = (i) KPC measure - see text.
(ii) Real value added divided by number of employees in entire manufacturing sector, according to Mining and Manufacturing Surveys.

THE NATURE OF KOREAN LABOR MARKET DATA

The Appendix reviews available sources of Korean labor market information. The Korean government has amassed an impressive collection of official labor market data spanning, in most instances, the period 1970 through the present. The available data make possible a more exhaustive analysis of wage and employment trends than could be attempted in many other nations. However, it is important to emphasize the basic limitations of the data imposed by the coverage of Korean wage and employment surveys. By not reflecting the conditions of the small-scale or informal economy, the data portray only a percentage of the nonagricultural work force. In order to avoid making inaccurate economy wide generalizations based solely on these formal economy statistics, this chapter provides estimates of the relative size of the formal and informal sectors. It also documents the alternative sources of Korean labor market information which are relied upon throughout this report.

Most Korean labor market information is summarized in the Ministry of Labor's annual Yearbook of Labor Statistics. This yearbook provides the major findings of the Ministry's own survey work including the Monthly Wage Survey, Actual Labor Conditions of Establishments (quarterly) and Occupational Wage Survey (annual). The Yearbook additionally provides data compiled from the National Bureau of Statistics' Economically Active Population Survey (quarterly). Information on, among other things, prices, productivity trends and registered labor disputes is also reported.

The data on earnings are collected solely by the Ministry of Labor while employment statistics are generated by several sources. By comparing the employment profiles from Ministry of Labor reports with the profiles of more global surveys, it is possible to determine the boundaries of Ministry of Labor earnings data. In Table 18 information on employment by economic sector from different sources is compared. In the first column, the results of the 1979 /1 Economically Active Population Survey (EAPS) are presented. This survey is household based and is administered to approximately 15,000 families nationwide, yielding responses from some 45,000 civilians 14 years and older. If we accept the Economically Active Population Survey projection of 14.2 million people falling into this category nationwide, the survey translates into roughly a 3 per 1,000 sample.

/1 The year 1979 was chosen for comparison because it is the most recent year for which a complete set of independent estimates from alternative sources is available. Note also that Population Census data would have been an ideal source for conducting the consistency/boundary analysis being developed. However, no preliminary results from the 1980 Census are available.

Table 18: EMPLOYMENT BY ECONOMIC SECTOR (1979) ACCORDING TO ALTERNATIVE SOURCES
(In thousands of workers)

Industry	EAPS (1)	ALCE (2)	MWS (3)	OWS (4)	Other (5)
1. Total employment	13,664	3,345	2,735	2,839	n.a.
2. Agriculture /a	4,887	22	n.a.	10	n.a.
3. Mining	111	74	67	70	80
4. Manufacturing	3,126	2,155	1,921	1,999	2,116
5. Construction	836	280	86	87	475
6. Social overhead capital and other services	4,704	814	661	673	n.a.
7. Electricity /b	n.a.	23	21	22	19
8. Commerce /c	n.a.	211	109	113	1,363
9. Transport /d	n.a.	250	240	244	404
10. Finance /e	n.a.	164	148	149	n.a.
11. Personal services	n.a.	166	143	145	n.a.
12. Public sector	n.a.	n.a.	n.a.	n.a.	664/f

/a Includes agriculture, forestry, fishing and hunting.
/b Includes electricity, water and gas in columns (2), (3) and (4) and only electricity in column (3).
/c Includes wholesale and retail trade as well as hotels and restaurants.
/d Includes transport, storage and communication in columns (2), (3) and (4), and only transport in column (5)
/e Includes financing, insurance, real estate and business services.
/f This figure includes 582,000 employees of the national government as well as 82,000 public enterprise workers. (The latter statistic was supplied by the KDI).

Sources: Economically Active Population Survey, National Bureau of Statistics, EPB. Includes civilian and noninstitutional population 14 years old and over.
Actual labor conditions at establishment, Ministry of Labor. Includes establishments of 5 or more workers excluding public employment.
Monthly Wage Survey, Ministry of Labor. Includes establishments of 10 or more workers excluding public employment and agriculture, forestry, hunting and fishing.
Occupational Wage Survey, Ministry of Labor. Includes establishments of 10 or more workers excluding public employment.
All figures are reported in Korea: Statistical Yearbook 1981, Bureau of Statistics, EPB. This volume is a compilation of other surveys. We report employment from the surveys of Mining and Manufacturing, Construction, Electricity, Wholesale and Retail Trade, Transportation and Government Administration.

In columns 2, 3 and 4 the results of three different Ministry of Labor surveys are reported. In column 2, employment data from the Actual Labor Conditions of Establishments (ACLE) are presented. This survey covers establishments of 5 or more workers, excluding all public sector employment. No wage data are reported in this survey. Columns 3 and 4 correspond to the Monthly Wage Survey (MWS) and Occupational Wage Survey (OWS) respectively. These surveys are administered to 3,865 firms, employing 10 or more workers,/1 and contain detailed information on earnings by economic sectors. According to the Ministry of Labor, the establishment surveys of firms with 10 or more workers are 8.5% samples of the population of registered firms.

Column 5 presents employment estimates obtained from survey and census reports of individual government ministries. These data yield estimates for sectors not covered by the Ministry of Labor (e.g. public employment) while they also provide independent consistency checks of other employment estimates.

According to row 1 of Table 18, the available earnings data - information contained in only the MWS and OWS - correspond to only 1/3 of total private, nonagricultural employment. In other words, for some 5 1/2 million workers we have no corresponding earnings data. Table 18 suggests that these workers are most concentrated in the Social Overhead Capital and Other Services sector. In fact, 74% of the workers "missing" earnings data are in this sector, another 22% are reported to be in manufacturing with the remaining percentages scattered across other sectors. These data illustrate the extent of the Korean small-scale sector which, by definition, is excluded from the earnings surveys./2

The significance of the small-scale sector can be further documented. First, examine row 8 of Table 18 which reports employment in the Commerce sector, i.e. wholesale and retail trade, hotels and restaurants. The 1979 Census of this sector reports that 90% of the sector's 1,363,000 workers (column (4)) are employed in firms of fewer than 10 persons. Clearly the Ministry of Labor earnings data on formal employment in this sector, representing only slightly more than 100,000 workers (columns (3) and (4)), cannot be construed as representative of the entire sector. Parallel to the larger firms exists a vast informal economy.

/1 The sample is based on stratified random sampling with a larger share of large firms included in the sample. The sample is redrawn every 3 years. Prior to redrawing a new sample, firms which are lost to the sample are replaced through random selection procedures.

/2 Problems of definition and of sampling bias will, of course, affect the actual percentages reported by the cross-survey comparison above and, therefore, the specific numbers should only be considered as suggestive of formal/informal sector employment shares. However, the basic conclusion on the significance of the small-scale sector seems robust.

The small-scale economy is also made apparent by the Economically Active Population Survey's reporting of employment by class of workers. In 1979 (see Table 19 below), for economically active persons in non-farm households, which roughly corresponds to non-agricultural employment, close to 1/3 of all workers are self-employed or family workers. These individuals constitute a significant percentage of the informal economy and their earnings are not captured by any official survey.

Table 19: PERSONS EMPLOYED BY CLASS OF WORKER (1979)
(Non-Farm Households Only; '000 Workers)

Self-Employed	Family Workers	Regular Employees	Temporary Employees	Daily Workers	Total
2,124	548	3,665	977	994	8,308

Source: EAPS, EPB.

Given the importance of the manufacturing sector in the Korean economy, it is worth commenting on the consistency of its employment statistics (Table 18, row (4)). The Mining and Manufacturing Survey conducted by the Economic Planning Board reports total employment of 2,116 thousand workers in 1979 in firms of at least 5 employees. For firms employing 10 or more workers the corresponding total is 2,041 thousand. Both figures compare favorably with the results of the Monthly and Occupational Wage Surveys, our primary sources of earnings data,/1 with a discrepancy in the 5% range. The similarity of the employment figures for the formal manufacturing sector suggests robustness in the data available to portray this leading sector of the economy. The residual estimate of informal manufacturing employment of almost 1 million workers (row 4, column (1) - (2)) again points to the significance of the "uncovered" sector.

In an analysis of the size of the informal economy analagous to this one Bai (1981) estimates employment, in what he refers to as the urban traditional sector, equal to only 50% rather than our 66%, of nonagricultural employment. His estimate is lower than ours because he subtracts an estimate of non-farm agricultural employment from the Economically Active Population Survey's estimate of nonagricultural employment. Although somewhat different, both estimates of the size of the informal economy do point out the limitations in generalizing about the entire economy from Ministry of Labor earnings data.

/1 Differences between the MWS and OWS can be attributed to differences in sampling period. The MWS reports the average monthly experience while the OWS refers only to the actual survey period.

Although representing only 1/3 - 1/2 of total private nonagricultural employment, Ministry of Labor earnings data might still be appropriately used for some economy-wide generalizations if they were believed to be proportionately representative of total employment. Table 20 reveals that the occupation distribution generated by the Economically Active Population Survey does not closely correspond with that of the Occupational Wage Survey (OWS). The latter survey is more heavily weighted toward production and clerical work, reflecting the occupation structure of the formal economy which is dominated by manufacturing and by a generally large-scale and more bureaucratic industrial organization.

Table 20: COMPARISON OF OCCUPATIONAL COMPOSITION (1980)
NONAGRICULTURAL WORKERS ONLY
('000 Workers)

Occupation	EAPS		OWS	
	Total	%	Total	%
Professional	730	(8.1)	262	(9.6)
Clerical	1,266	(14.0)	575	(21.1)
Sales	1,983	(21.9)	13	(0.5)
Service	1,085	(12.0)	121	(4.4)
Production	3,990	(44.0)	755	(64.4)
Total	9,054	(100.0)	2,726	(100.0)

Source: Economically Active Population Survey, National Bureau of Statistics, EPB; Occupational Wage Survey, Ministry of Labor.

The limitations of the available Korean earnings data point up a basic weakness of Korean statistical coverage, namely, the absence of a broadly based, multi-purpose, nationwide household survey./1 Bhalla (1979)

/1 It is worth noting that the Family Income and Expenditure survey of urban housholds does provide some household based data on earnings. However, this survey is primarily used for price index issues and little earnings information is published. Furthermore, Korean statisticians familiar with the survey did not express confidence in this area of the survey. Perhaps in the future this survey could be augmented for improved earnings data collection.

also points out the need for such a survey in his in-depth review of data on household incomes in Korea. Bhalla's interest is to portray the biases inherent in analyses of Korea's distribution of income. He notes that existing surveys fail to include at least 19-25% of the nation's households. Bhalla concludes that without information on these households, little confidence can be placed on the derived estimate of improvements in the Korean distribution of income. Although we share Bhalla's concern, our problem is only partially analagous. Confidence can be placed on the data reflecting the formal economy, however, it must be recognized that few empirical generalizations can be offered on the remaining and rather substantial informal sectors.

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An account of income inequalities and poverty in Malaysia. The research is policy oriented and the findings, to which the author's statistical technique is applied, are thoroughly discussed. A range of issues is covered, from data problems to conceptual questions arising with respect to measurement.

Oxford University Press, 1982. 384 pages (including bibliography, index).

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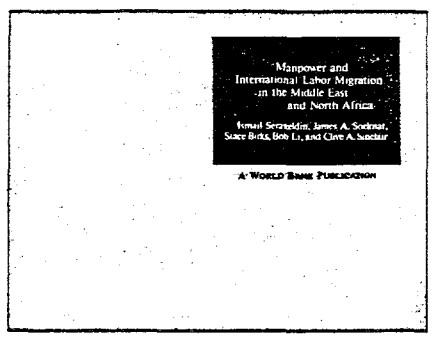

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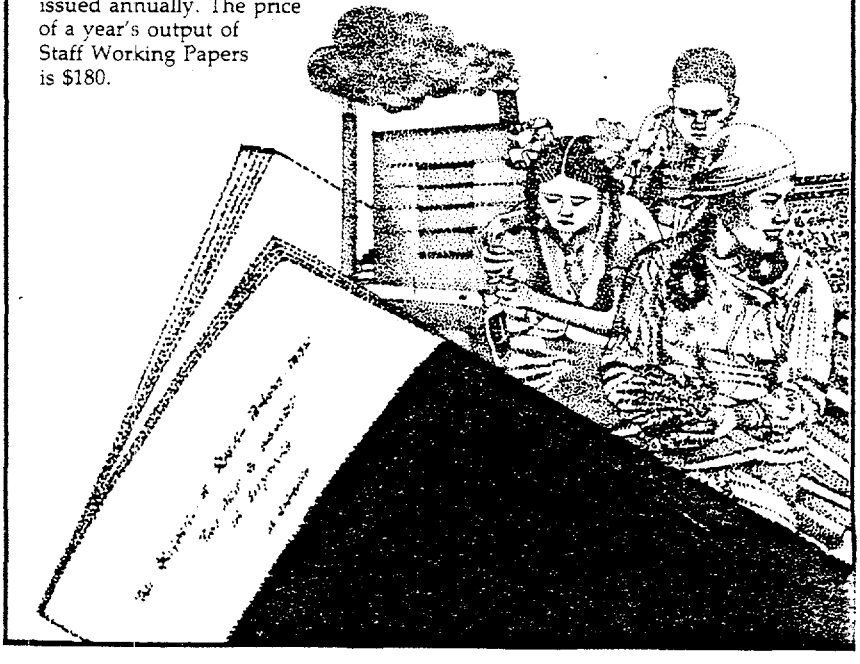

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